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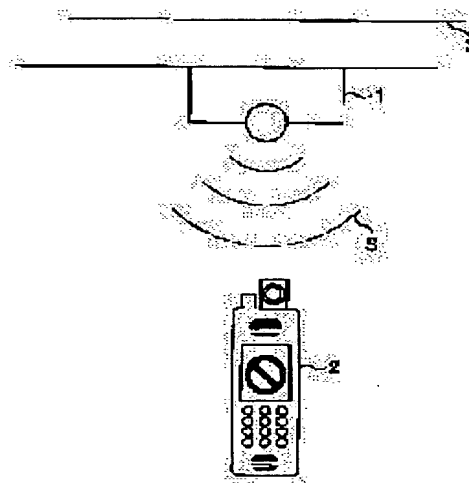
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(54) VIDEO ACQUISITION LIMIT SYSTEM, VIDEO ACQUISITION PERMISSION REJECT  
SIGNAL TRANSMITTER AND VIDEO ACQUISITION LIMIT DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To surely limit acquisition of a video image relating to a prescribed object without limiting other functions than video image acquisition like voice speech functions.

SOLUTION: A photographing inhibit signal transmitter 1 transmits a photographing inhibit signal S in the vicinity of an photographing inhibit object 3 in the case that inhibit of photographing of the photographing inhibit object 3 signal is desired. A device having a photographing function, that is, a portable video telephone terminal 2 uses a camera section to monitor the arrival of the photographing inhibit signal S and the camera section stops the output of video data when the photographing inhibit signal S arrives.



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CLAIMS

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[Claim(s)]

[Claim 1] The image acquisition permission-or-denial signal sending set of the inhibiting signal which shows a predetermined prohibition or authorization of image acquisition actuation, and an enabling signal which carries out wireless transmission of either at least, It consists of an image acquisition locking device formed in the predetermined device which performs said image acquisition actuation. And said image acquisition locking device A permission-or-denial signal receiving means to receive said inhibiting signal transmitted from said image acquisition permission-or-denial signal sending set, and said enabling signal, When said image acquisition permission-or-denial signal sending set transmits said inhibiting signal and said inhibiting signal is received by said permission-or-denial signal receiving means Moreover, when said image acquisition permission-or-denial signal sending set transmits only said enabling signal and said enabling signal is not received by said permission-or-denial signal receiving means The image acquisition limit system characterized by providing an image acquisition prohibition means to forbid said device from performing said image acquisition actuation.

[Claim 2] The image acquisition inhibiting-signal sending set which carries out wireless transmission of the inhibiting signal which shows prohibition of predetermined image acquisition actuation, It consists of an image acquisition locking device formed in the predetermined device which performs said image acquisition actuation. And said image acquisition locking device When said inhibiting signal is received by an inhibiting-signal receiving means to receive said inhibiting signal transmitted from said image acquisition inhibiting-signal sending set, and said inhibiting-signal receiving means The image acquisition limit system characterized by providing an image acquisition prohibition means to forbid said device from performing said image acquisition actuation.

[Claim 3] The image acquisition permission-or-denial signal sending set which carries out wireless transmission of either at least at the inhibiting signal and enabling signal which are used in order to build the image acquisition control system which restricts predetermined image acquisition actuation in a predetermined location, and show prohibition or authorization of said image acquisition actuation.

[Claim 4] It is the image acquisition permission-or-denial signal sending set according to claim 3 characterized by using the lightwave signal of predetermined wavelength as said inhibiting signal and said enabling signal.

[Claim 5] The lightwave signal as said inhibiting signal and said enabling signal is an image acquisition permission-or-denial signal sending set according to claim 4 characterized by having a predetermined luminescence pattern.

[Claim 6] The lightwave signal as said inhibiting signal and said enabling signal is an image acquisition permission-or-denial signal sending set according to claim 4 characterized by being what has invisibility wavelength.

[Claim 7] It is the image acquisition permission-or-denial signal sending set according to claim 3 characterized by using the electric-wave signal of predetermined wavelength as said inhibiting signal and said enabling signal.

[Claim 8] Said inhibiting signal and the electric-wave signal as said enabling signal are an image

acquisition permission-or-denial signal sending set according to claim 7 by which it is modulating-electrical signal of predetermined pattern characterized.

[Claim 9] The image acquisition control system which restricts predetermined image acquisition actuation in a predetermined location In order to build with the image acquisition permission-or-denial signal sending set which carries out wireless transmission of either at least to the inhibiting signal and enabling signal which show prohibition or authorization of said image acquisition actuation A permission-or-denial signal receiving means to receive said inhibiting signal which is established and used for the predetermined device which performs said image acquisition actuation, and was transmitted from said image acquisition permission-or-denial signal sending set, and said enabling signal, When said image acquisition permission-or-denial signal sending set transmits said inhibiting signal and said inhibiting signal is received by said permission-or-denial signal receiving means Moreover, when said image acquisition permission-or-denial signal sending set transmits only said enabling signal and said enabling signal is not received by said permission-or-denial signal receiving means The image acquisition locking device characterized by providing an image acquisition prohibition means to forbid said device from performing said image acquisition actuation.

[Claim 10] In order to build with the image acquisition inhibiting-signal sending set which carries out wireless transmission of the inhibiting signal which shows prohibition of said image acquisition actuation for the image acquisition control system which restricts predetermined image acquisition actuation in a predetermined location An inhibiting-signal receiving means to receive said inhibiting signal which is established and used for the predetermined device which performs said image acquisition actuation, and was transmitted from said image acquisition inhibiting-signal sending set, The image acquisition locking device characterized by providing an image acquisition prohibition means to forbid said device from performing said image acquisition actuation when said inhibiting signal is received by said inhibiting-signal receiving means.

[Claim 11] Said image acquisition prohibition means is an image acquisition locking device according to claim 9 or 10 characterized by to permit that said device performs said image acquisition actuation according to the condition that said inhibiting signal was not received by said permission-or-denial signal receiving means after that having continued over predetermined time when it changed to the condition are not received from the condition that said inhibiting signal is received by said permission-or-denial signal receiving means.

[Claim 12] Said device is an image acquisition locking device according to claim 9 or 10 characterized by being photography equipment which performs actuation which generates and outputs image information as said image acquisition actuation.

[Claim 13] Said device is an image acquisition locking device according to claim 9 or 10 characterized by being the communication terminal which performs actuation which transmits the image information generated with predetermined image pick-up equipment as said image acquisition actuation to other communication terminals.

[Claim 14] Said device is an image acquisition locking device according to claim 9 or 10 characterized by being image are recording equipment which performs actuation which stores in a predetermined storage the image information generated with predetermined image pick-up equipment as said image acquisition actuation.

[Claim 15] Said inhibiting signal and said enabling signal are an image acquisition locking device according to claim 12 to 14 which is the lightwave signal of predetermined wavelength and is characterized by using a part of photoelectric element of a large number which constitute the image sensor which it has in order that said image pick-up equipment may generate image information in order to receive the lightwave signal of said predetermined wavelength.

[Claim 16] Said image acquisition prohibition means is an image acquisition locking device according to claim 9 or 10 characterized by permitting that said device performs said image acquisition actuation irrespective of the receiving situation of said inhibiting signal by said permission-or-denial signal receiving means, or said enabling signal if predetermined limit discharge directions are made.

[Translation done.]

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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the image acquisition permission-or-denial signal sending set and image acquisition locking device for building the image acquisition limit system for restricting the image acquisition actuation by the device which has a photography function, and this image acquisition limit system.

[0002]

[Description of the Prior Art] In recent years, with development of mobile computing, an image photography function (camera function) is unified to a pocket mold communication terminal, and the pocket mold communication terminal which photos a location freely to \*\*\*\*\* and enabled it to transmit a quiescence image and a moving picture through mobile networks, such as PHS (Personal Handy Phone) and PDC (Personal Digital Cellular), is realized by the case with small extent kept in a pocket or a bag.

[0003] In these equipments, generally, the change of actuation / non-operating state of a camera function is controlled, when a user performs powering on/cutting to a camera function part, and connection/cutting of the channel to the communication terminal body section of a camera function part manually.

[0004] By the way, although there are the location and field which are considered as the ban on photography from the problem on defense and a right in a bank, or a theater and a movie theater, the miniaturization of camera equipment can progress and a shot can be sneaked easily. Moreover, it becomes possible to transmit the image photoed by combining with the above cellular phones to a remote place for a short time, and there is a possibility that the information which should be made secret may be revealed or the image information which does not obtain a right holder's permission may circulate on defense further.

[0005] In order to avoid such fault and to restrict a message with a cellular-phone terminal in a certain field, it covers with the wall and the structure with the property which does not let an electric wave pass for the field of the quality of the material, or there is a technique of sending the signal which imitated the signal of the connection refusal from a base station to a personal digital assistant, and restricting call origination and a call in.

[0006] however — up to the voice message which does not need to be forbidden according to such an approach — it cannot carry out — becoming — a user — superfluous — it becomes disadvantageous.

[0007]

[Problem(s) to be Solved by the Invention] It is difficult to restrict conventionally the image acquisition which used the camera etc. certainly as mentioned above, and there was fault that image acquisition in the location where it is unsuitable that image acquisition is performed will be performed easily.

[0008] When this invention is made in consideration of such a situation and it considers as that purpose, it is in offering the image acquisition permission-or-denial signal sending set and image acquisition locking device for building the image acquisition limit system which can restrict the image acquisition about a predetermined object certainly, and this image acquisition limit system,

without restricting functions other than image acquisition of a voice message etc.

[0009]

[Means for Solving the Problem] In order to attain the above purpose, this invention is predetermined image acquisition actuation (for example, output [ generation and ] actuation of image information). The inhibiting signal which shows prohibition or authorization of a send action or are recording actuation, and an enabling signal at least either For example, image acquisition permission-or-denial signal sending sets, such as for example, a photography inhibiting-signal sending set which carries out wireless transmission with the lightwave signal (invisible lightwave signal) of a pattern predetermined on predetermined wavelength, the electric-wave signal of a pattern predetermined on predetermined wavelength, etc., the predetermined device (for example, photography equipment and a communication terminal —) which performs said image acquisition actuation An image acquisition limit system is constituted from an image acquisition locking device formed in image are recording equipment etc. or to said image acquisition locking device The permission-or-denial signal receiving means which receives said inhibiting signal transmitted from said image acquisition permission-or-denial signal sending set, and said enabling signal, for example, consists of image sensors and a control signal transducer, When said image acquisition permission-or-denial signal sending set transmits said inhibiting signal and said inhibiting signal is received by said permission-or-denial signal receiving means Moreover, when said image acquisition permission-or-denial signal sending set transmits only said enabling signal and said enabling signal is not received by said permission-or-denial signal receiving means Said device forbids performing said image acquisition actuation, for example, was equipped with image acquisition prohibition means, such as an image data output control section and the main control section.

[0010] Moreover, this invention is predetermined image acquisition actuation (for example, output [ generation and ] actuation of image information). The inhibiting signal which shows prohibition of a send action or are recording actuation For example, image acquisition inhibiting-signal sending sets, such as for example, a photography inhibiting-signal sending set which carries out wireless transmission with the lightwave signal (invisible lightwave signal) of a pattern predetermined on predetermined wavelength, the electric-wave signal of a pattern predetermined on predetermined wavelength, etc., the predetermined device (for example, photography equipment and a communication terminal —) which performs said image acquisition actuation An image acquisition limit system is constituted from an image acquisition locking device formed in image are recording equipment etc. or to said image acquisition locking device When said inhibiting signal transmitted from said image acquisition inhibiting-signal sending set is received, for example, said inhibiting signal is received by the inhibiting-signal receiving means which consists of image sensors and a control signal transducer, and this inhibiting-signal receiving means Said device forbids performing said image acquisition actuation, for example, was equipped with image acquisition prohibition means, such as an image data output control section and the main control section.

[0011] When the permission or denial of image acquisition is notified to an image acquisition locking device by signal transfer with the permission-or-denial signal receiving means or the inhibiting-signal receiving set of an image acquisition permission-or-denial signal sending set or an image acquisition inhibiting-signal sending set, and an image acquisition locking device and image acquisition is forbidden by having provided these means, activation of image acquisition actuation, such as generation / output actuation of image information, a send action, or are-recording actuation, is forbidden.

[0012] Moreover, this invention permitted that said device performed said image acquisition actuation according to the condition that said inhibiting signal was not received by said permission-or-denial signal receiving means after that having continued said image acquisition prohibition means over predetermined time when it changed to the condition of not being received from the condition that said inhibiting signal is received by said permission-or-denial signal receiving means.

[0013] By having provided such a means, by the hits of an inhibiting signal, it is not judged with image acquisition having been permitted, but after it becomes certain to have changed into the

condition that an inhibiting signal does not come, performing image acquisition actuation is permitted.

[0014] Moreover, a part of photoelectric element of a large number which it has in order that said inhibiting signal and said enabling signal may be made into the lightwave signal of predetermined wavelength and said image pick-up equipment may generate image information and which constitute image sensors, such as image sensors, for example was used for this invention in order to receive the lightwave signal of said predetermined wavelength.

[0015] By having provided such a means, generation of a video signal and reception of said inhibiting signal and said enabling signal are performed by the single image sensor.

[0016] Moreover, this invention shall permit that said device performs said image acquisition actuation irrespective of the receiving situation of said inhibiting signal by said permission-or-denial signal receiving means, or said enabling signal, if predetermined limit discharge directions are made in said image acquisition prohibition means.

[0017] Even if it is in the situation that image acquisition actuation is forbidden by having provided such a means, if limit discharge directions are made, image acquisition actuation will be performed.

[0018]

[Embodiment of the Invention] (1st operation gestalt) The 1st operation gestalt of the image acquisition limit system of this invention is explained hereafter, referring to a drawing.

[0019] Drawing 1 is drawing showing the image acquisition limit structure of a system concerning this operation gestalt.

[0020] As shown in this drawing, the image acquisition limit system of this operation gestalt consists of a pocket mold TV phone terminal unit 2 with the camera section which comes to apply the photography inhibiting-signal sending set 1 which becomes with the application of the image acquisition permission-or-denial signal sending set of this invention, and the image acquisition locking device of this invention.

[0021] The photography inhibiting-signal sending set 1 is arranged at head lining near the photography prohibition objects 3, such as a screen of a movie theater, etc., and transmits the photography inhibiting signal S which consists of an infrared light signal with a predetermined luminescence pattern.

[0022] The pocket mold TV phone terminal unit 2 can picturize an image, and it has the function to transmit the photoed image to a remote place through a PHS communication network, besides the function to perform a voice message.

[0023] Drawing 2 is the block diagram showing the concrete example of a configuration of the photography inhibiting-signal sending set 1 in drawing 1.

[0024] As shown in this drawing, the photography inhibiting-signal sending set 1 of this operation gestalt has the pattern generation section 11, the LED mechanical component 12, and LED (light emitting diode) 13. In others, although illustration is omitted in drawing 2, it has a power supply section for supplying the power for operating above-mentioned each part.

[0025] The pattern generation section 11 generates electrically a pattern train with the ON/OFF pattern according to the luminescence pattern set to photography inhibiting-signal S, and gives it to the LED mechanical component 12.

[0026] The LED mechanical component 12 blinks LED13 according to the pattern train given from the pattern generation section 11.

[0027] According to the drive by the LED mechanical component 12, LED13 is carrying out flashing luminescence of the infrared light, and transmits the photography inhibiting signal S.

[0028] Drawing 3 is the block diagram showing the important section configuration of the pocket mold TV phone terminal unit 2 concerning this operation gestalt.

[0029] As shown in this drawing, the pocket mold TV phone terminal unit 2 concerning this operation gestalt The main control section 21, the image codec 22, the LCD interface section ( ) [ LCD ] The IF section 23, LCD 24, the camera section 25, the camera interface section (Liquid crystal display) 26, the demultiplexing section 27, the PHS circuit interface section (PHS circuit I/F section) 28, an antenna 29, the voice codec 30, a microphone 31, the microphone interface section (microphone IF section) 32, the loudspeaker interface section (Camera I/F section)



(Loudspeaker IF section) It has 33, a loudspeaker 34, a control unit 35, and the actuation input-control circuit section 36.

[0030] Among these, the main control section 21, the image codec 22, the LCD interface section 23, the camera interface section 26, the demultiplexing section 27, the PHS circuit interface section 28, the voice codec 30, and the actuation input-control circuit section 36 are mutually connected through the main bus 37. Moreover, the demultiplexing section 27 is connected with the image codec 22, the PHS circuit interface section 28, and the voice codec 30 through the synchronous buses 38, 39, and 40, respectively.

[0031] The main control section 21 realizes actuation as a pocket mold TV phone terminal by coming to have CPU, ROM, RAM, etc. and carrying out generalization control of each part of this pocket mold TV phone terminal unit 2. This main control section 21 realizes the processing means for realizing various kinds of functions by software processing.

[0032] The image codec 22 gives the image data which decoded coding image data and were reproduced to the LCD interface section 23. Moreover, the image codec 22 encodes the image data given through the camera interface section 26 from the camera section 25, and obtains the coding image data of an MPEG4 method.

[0033] The LCD interface section 23 is given to LCD24 after changing the given image data into the signal format which can be processed by LCD24. LCD24 is the indicator of a color with sufficient display capacity (resolution etc.) to display moving pictures, such as MPEG4, or monochrome, is given from the LCD interface section 23, and displays an image based on image data.

[0034] Using a CCD camera etc., the camera section 25 generates image data and gives them to the camera interface section 26. The camera interface section 26 is given to the image codec 22 after changing the image data given from the camera section 25 into the signal format which can be processed by the image codec 22. The camera interface section 26 transmits the photography prohibition discharge command to the camera section 25 again, when a photography prohibition discharge command is given from the main control section 21.

[0035] The demultiplexing section 27 is given through the main bus 37 from the coding image data given through the synchronous bus 38 from the image codec 22, the coding voice data given through the voice codec 30 to the synchronous bus 40, and the main control section 21, and also it multiplexes data with a predetermined multiplex system (for example, ITU-T recommendation H.221 grade), and gives the transmission data obtained by this through the synchronous bus 39 to the PHS circuit interface section 28. Moreover, the demultiplexing section 27 separates coding image data, coding voice data, and other data from the transmission data given through the synchronous bus 39 from the PHS circuit interface section 28, respectively, and gives each of these data through the synchronous buses 38 and 40 and the main bus 37 to each of the image codec 22, the voice codec 30, and the main control section 21.

[0036] It is connectable with a PHS network by wireless through an antenna 29, and data are transmitted [ the PHS circuit interface section 28 ] and received through the communication path set as the PHS screen oversize while performing various kinds of call processing for performing the communication link through a PHS network.

[0037] The voice codec 30 is outputted from a microphone 31, is encoded by the predetermined voice coding method (for example, ITU-T recommendation G.724 grade), and obtains coding voice data while it digitizes the sound signal given through the microphone interface section 32. The voice codec 30 gives this coding voice data to the demultiplexing section 27 through the synchronous bus 40. Moreover, the voice codec 30 analogs[ both ]-izes as if the coding voice data given from the demultiplexing section 27 is decoded, acquires a sound signal, and gives this sound signal to the loudspeaker interface section 33.

[0038] A microphone 31 changes surrounding voice into a sound signal, and gives it to the microphone interface section 32. The microphone interface section 32 is given to the voice codec 30 after changing the sound signal given from the microphone 31 into the signal format which can be processed by the voice codec 30.

[0039] The loudspeaker interface section 33 is given to a loudspeaker 34 after changing the

sound signal given from the voice codec 30 into the signal format which can be processed by the loudspeaker 34. A loudspeaker 34 outputs as voice the sound signal given from the loudspeaker interface section 33.

[0040] A control unit 35 is for receiving various kinds of directions inputs to the main control section 21 by the user, and has the electric power switch for receiving assignment of ON/OFF of actuation of the dial carbon button group for receiving assignment of the manual operation button group which receives assignment of various kinds of functions, the telephone number, or various kinds of numeric values, or this equipment etc. The actuation input-control circuit section 36 recognizes the contents of the directions actuation by the control unit 35, and notifies it to the main control section 21.

[0041] In addition, although illustration is omitted, the power supply section which supplies the power for operating each part mentioned above as a component of this equipment exists.

[0042] By the way, the camera section 25 has image-sensors 25a, image data-conversion section 25b, control signal transducer 25c, 25d of command directions sections, and image data output control-section 25e further.

[0043] Image-sensors 25a generates the electrical signal according to the light figure in which image formation was carried out by the optical system which is not illustrated using a CCD area sensor etc. The electrical signal generated by this image-sensors 25a is given to image data-conversion section 25b and control signal transducer 25c, respectively.

[0044] In addition, as shown in drawing 4, the wavelength filters 42 and 43 with a mutually different light transmission property are formed in the photography side of image-sensors 25a so that two mutually different fields in the service area may be covered.

[0045] The wavelength filter 42 has a light transmission property as shown in drawing 5. That is, the wavelength filter 42 penetrates only the effective light as a usual image, and it is made it to carry out image formation to a photo detector. Moreover, the wavelength filter 43 has a light transmission property as shown in drawing 6. That is, the wavelength filter 43 penetrates only the infrared light of non-\*\*\*\*, and it is made it to carry out image formation to a photo detector. As for the wavelength from which the permeability in the wavelength filter 42 serves as max, it is desirable that it is in agreement with the wavelength of the photography inhibiting signal S which the photography inhibiting-signal sending set 1 transmits.

[0046] The field covered with the wavelength filter 42 turns into the photography field 44 in this way, and the field covered with the wavelength filter 43 is the photography inhibiting-signal light-receiving field 45.

[0047] Image data-conversion section 25b extracts an outputted part from the photography field 44 from the electrical signal given from image-sensors 25a, and changes it into the image data of a predetermined gestalt. And image data-conversion section 25b gives this image data to image data output control-section 25e.

[0048] Control signal transducer 25c extracts an outputted part from the photography inhibiting-signal light-receiving field 45 from the electrical signal given from image-sensors 25a, and changes it into the control signal according to the existence of arrival of the photography inhibiting signal S. And control signal transducer 25c gives this control signal to image data output control-section 25e.

[0049] 25d of command directions sections gives a photography prohibition discharge signal to image data output control-section 25e, when a photography prohibition discharge command is given through the camera interface section 26 from the main control section 21.

[0050] Image data output control-section 25e carries out ON/OFF control of the output to the camera interface section 26 of the image data given from image data-conversion section 25b based on the condition of the control signal given from control signal transducer 25c, and the existence of supply of the photography prohibition discharge signal from 25d of command directions sections.

[0051] In addition, it is accumulated as an integrated circuit of for example, one chip, each part of this camera section 25 may apply what functions also as independent photography equipment, and it may be made to realize other each part as an addition circuit using image-sensors 25a which added the wavelength filters 42 and 43 to the existing CCD sensor etc.

[0052] Drawing 7 is drawing showing the appearance of the pocket mold TV phone terminal unit 2 of this operation gestalt. In addition, the same number is given to the same part as drawing 3.

[0053] As shown in this drawing, the pocket mold TV phone terminal unit 2 has the case B of a core box, and it is equipped with each component mentioned above in this case B.

[0054] The main control section 21, the image codec 22, the LCD interface section 23, the camera interface section 26, the demultiplexing section 27, the PHS circuit interface section 28, the voice codec 30, the microphone interface section 32, the loudspeaker interface section 33, and the actuation input-control circuit section 36 are held in the interior of Case B, after all are mounted on the one main substrate.

[0055] LCD24 is formed where the screen is exposed outside from the whole surface of a case.

[0056] Many, such as a carbon button of a control unit 35, are collectively prepared in the field (the front face of a case is called hereafter) in which LCD24 is formed. Between each carbon button, a case is held single hand, when [ each ] it is operated with another finger, suitable spacing is taken and it is arranged so that a depression can be carried out [ one ] certainly.

[0057] The microphone 31 and the loudspeaker 34 are arranged up and down so that the front face of a case may pinch LCD24 and a control unit 35. As for spacing of this microphone 31 and loudspeaker 34, it is possible for it to be set up in consideration of average human being's lug and spacing of opening, and to make a user's lug and opening approach at coincidence, respectively at the time of a message. That is, this pocket mold TV phone terminal unit 2 is a thing with the function of the hand set in telephone usual in the case B itself.

[0058] Next, it explains per actuation of the image acquisition limit system constituted as mentioned above.

[0059] First, the manager of the photography prohibition objects 3, such as a theater manager, arranges the photography inhibiting-signal sending set 1 near the photography prohibition object 3, and is taken as operating state.

[0060] If it does so, the photography inhibiting-signal sending set 1 will transmit the photography inhibiting signal S around the photography prohibition object 3. In addition, since this photography inhibiting signal S is un-visible infrared light, it does not become the hindrance of a spectator etc. viewing the photography prohibition object 3.

[0061] Now, although it has the usual PHS telephone function which enables only a voice message as main functions, the pocket mold TV phone terminal unit 2 is the same as that of the usual PHS telephone terminal about this, and since it is not the summary of this invention, it is omitted here.

[0062] And here explains actuation when the TV phone mode in which image photography by the camera section 25 is performed is set up.

[0063] When a call request is made from this pocket mold TV phone terminal unit 2 or the call in from the end of the other end occurs, the main control section 21 is performed in the general procedure of common knowledge of setting processing of a call. Processing is ended, after carrying out singing of the loudspeaker 34 and notifying a user of that, when a call is unestablishable by the cause of a phase hand busy or a poor circuit at this time.

[0064] If a call is established normally, this pocket mold TV phone terminal unit 2 and an other party terminal will serve as voice talk mode, and the message of them with voice will be attained.

[0065] Then, the negotiation of a capacity check of an image communication link is performed between other party terminals. When there is no response from an other party terminal, or when there is a response of refusal, processing is ended there, and an audio communication link is continued.

[0066] If the response of the purport to which an image communication link is permitted from an other party terminal is returned and it is checked that an image communication link is possible mutual, the image codec 22, the camera section 25, and the camera interface section 26 will become effective, and the image communication link of them will be attained.

[0067] Although image data are generated by image data-conversion section 25b in the camera section 25 from the electrical signal generated by image-sensors 25a, the output of this image data is controlled by image data output control-section 25e as follows here.

[0068] Supposing it is located in the arrival range of the photography inhibiting signal S in which this pocket mold TV phone terminal unit 2 was transmitted by the photography inhibiting-signal sending set 1, this photography inhibiting signal S will be received in the photography inhibiting-signal light-receiving field 45 of image-sensors 25a. So, in control signal transducer 25c, an outputted part from the photography inhibiting-signal light-receiving field 45 supervises whether it has the predetermined pattern as a photography inhibiting signal S, and is outputting the control signal which shows the monitor result.

[0069] The photography inhibiting signal S does not arrive at this pocket mold TV phone terminal unit 2, but if the control signal shows that the photography inhibiting signal S has not come, image data output control-section 25e will give the image data given from image data-conversion section 25b to the camera interface section 26.

[0070] If it does so, image data will be given to the demultiplexing section 27, after the image codec 22 encodes, while being changed into the signal format which can be processed by the image codec 22 by the camera interface section 26.

[0071] In this way, in this condition, image data are multiplexed in the speech information and the demultiplexing section 27 which were sent from the voice codec 30, and are transmitted to an other party terminal by the PHS circuit interface section 28 through a PHS network.

[0072] However, the photography inhibiting signal S has arrived at this pocket mold TV phone terminal unit 2, and if the control signal shows that the photography inhibiting signal S has come, image data output control-section 25e will not output the image data given from image data-conversion section 25b.

[0073] In this way, in this condition, image data are not given to the demultiplexing section 27, and transmission of image data is not performed. Therefore, photography of an image and transmission of an image are not performed.

[0074] In addition, when it is in such a condition, it is good to be made to perform the display for notifying a user of the purport to which the main control section 21 recognizes that and photography is forbidden to LCD24.

[0075] Now, if the photography inhibiting signal S is no longer detected by that transmission of the photography inhibiting signal S is suspended according to the situation of the show of a movie having been completed, for example, or a user moves, and this pocket mold TV phone terminal unit 2 separates from the arrival range of the photography inhibiting signal S etc. by control signal transducer 25c, image data output control-section 25e starts the output of image data, and transmission of photography and image data can be performed.

[0076] In addition, it is desirable to have that the condition that the photography inhibiting signal S was undetectable continued over fixed time amount in order to prevent that photography will be started in such a case, since it thinks also when arrival of the photography inhibiting signal S carries out hits, and to cancel the block status of image data output according to situations, like a body crosses the front at this time 25, for example, the camera section.

[0077] On the other hand, if a user specifies photography prohibition discharge by predetermined directions actuation by the control unit 35 in the condition that the camera section 25 does not output image data, the main control section 21 will perform photography prohibition discharge processing as shown in drawing 8.

[0078] In this photography prohibition discharge processing, the main control section 21 receives the input of a personal identification number first (step ST 1).

[0079] Then, it judges whether the inputted personal identification number of the main control section 21 corresponds with the specific personal identification number beforehand decided in order to cancel the ban on photography (step ST 2), and only when in agreement, a photography prohibition command is given to the camera section 25 through the camera interface section 26 (step ST 3).

[0080] In the camera section 25, the photography prohibition command given through the camera interface section 26 is given at 25d of command directions sections. If it does so, 25d of command directions sections will give a photography prohibition discharge signal to image data output control-section 25e.

[0081] Image data output control-section 25e will output image data irrespective of the condition

of a control signal, if a photography prohibition discharge signal is given.

[0082] In addition, if it is made to change a personal identification number according to the pattern of the photography inhibiting signal S, the personal identification number for canceling the ban on photography the whole location can be changed, and it will become more convenient.

[0083] In this way, according to this operation gestalt, in the range at which the photography inhibiting signal S transmitted from the photography inhibiting-signal sending set 1 arrives, the camera section 25 does not output a video signal and photography is not performed. Thereby, it can prevent certainly that the photography prohibition object 3 will be photoed.

[0084] And since according to this operation gestalt only photography actuation is forbidden and the communication link is made possible, a voice message is not restricted.

[0085] Moreover, since according to this operation gestalt infrared light is used for the photography inhibiting signal S and it is made to perform light-receiving of the photography inhibiting signal S by image-sensors 25a for photography, it is difficult to cover the photography inhibiting signal S, and can prevent that photography is performed unjustly.

[0086] Moreover, by using infrared light for the photography inhibiting signal S, the conditions which forbid photography by the method of arrangement of the photography inhibiting-signal sending set 1 can be adjusted. That is, for example, if the photography inhibiting signal S is transmitted only from the photography prohibition object 3 side, only when the camera section 25 is turned to the direction of the photography prohibition object 3, photography can be forbidden. Therefore, when photoing the face of the user who has met the photography prohibition object 3, a limit of photography will be received, and it is not necessary to restrict the function as a TV phone.

[0087] Moreover, since according to this operation gestalt photography is made possible by inputting a specific personal identification number even when the photography inhibiting signal S reaches, it is effective when permitting photography only to those who obtained special permission of an official in charge, the report persons concerned, etc., for example.

[0088] (2nd operation gestalt) Then, the 2nd operation gestalt of the image acquisition limit system of this invention is explained, referring to a drawing.

[0089] The whole image acquisition limit system configuration concerning this operation gestalt and the configuration of the photography inhibiting-signal sending set 1 are the same as that of said 1st operation gestalt.

[0090] And it is the configuration of the pocket mold TV phone terminal unit 2 that the image acquisition limit system of this operation gestalt differs from said 1st operation gestalt.

[0091] Drawing 9 is the block diagram showing the concrete example of a configuration of the pocket mold TV phone terminal unit 2 in this operation gestalt. In addition, the same sign is given to the same part as drawing 3, and the detailed explanation is omitted.

[0092] As shown in this drawing, the pocket mold TV phone terminal unit 2 concerning this operation gestalt The image codec 22, the LCD interface section ( ) [ LCD ] The IF section 23, LCD 24, the demultiplexing section 27, the PHS circuit interface section (PHS circuit IF section) 28, an antenna 29, the voice codec 30, a microphone 31, the microphone interface section (microphone IF section) 32, the loudspeaker interface section (Liquid crystal display) (Loudspeaker IF section) It has 33, a loudspeaker 34, a control unit 35, the actuation input-control circuit section 36, the main control section 91, the camera section 92, the camera interface section (camera IF section) 93, and the image memory 94.

[0093] Among these, the image codec 22, the LCD interface section 23, the demultiplexing section 27, the PHS circuit interface section 28, the voice codec 30, the actuation input-control circuit section 36, the main control section 91, the camera interface section 93, and the image memory 94 of each other are connected through the main bus 37. Moreover, the demultiplexing section 27 is connected with the image codec 22, the PHS circuit interface section 28, and the voice codec 30 through the synchronous buses 38, 39, and 40, respectively.

[0094] That is, the pocket mold TV phone terminal unit 2 of this operation gestalt is what was newly equipped with the image memory 94 while replacing it with the main control section 21 in the pocket mold TV phone terminal unit 2, the camera section 25, and the camera interface section 26 of said 1st operation gestalt and equipping it with the main control section 91, the

camera section 92, and the camera interface section 93.

[0095] The main control section 91 realizes actuation as a pocket mold TV phone terminal by coming to have CPU, ROM, RAM, etc. and carrying out generalization control of each part of this pocket mold TV phone terminal unit 2. This main control section 91 realizes the processing means for realizing various kinds of functions by software processing. The processing means realized by software processing differ, and this main control section 91 can perform processing mentioned later, although the hard configuration is the same as that of the main control section 21 in said 1st operation gestalt.

[0096] Using a CCD camera etc., the camera section 92 generates image data and gives them to the camera interface section 93. The camera section 92 performs the arrival monitor of the photography inhibiting signal S, and gives the control signal which shows the existence of the photography inhibiting signal S to the camera interface section 93 again.

[0097] The camera interface section 93 is given to the image codec 22 after changing the image data given from the camera section 92 into the signal format which can be processed by the image codec 22. The camera interface section 93 gives the control signal given from the camera section 92 to the main control section 91 through the main bus 37 again, after changing into the signal format which can be recognized in the main control section 91.

[0098] The image memory 94 stores image data coming [ DRAM, a flash memory, etc. ] to use.

[0099] By the way, the camera section 92 has image-sensors 25a, image data-conversion section 25b, control signal transducer 25c, and image data output control-section 25e further.

[0100] That is, the camera section 92 is what was changed so that the control signal which control signal transducer 25c generates might be given to the camera interface section 93 while eliminating 25d of command directions sections in the camera section 25 of said 1st operation gestalt.

[0101] Next, actuation of the image acquisition limit system constituted as mentioned above is explained focusing on actuation of the pocket mold TV phone terminal unit 2.

[0102] Now, although the pocket mold TV phone terminal unit 2 has the usual PHS telephone function which enables only a voice message as main functions also with this operation gestalt, about this, it is the same as that of the usual PHS telephone terminal, and since it is not the summary of this invention, it omits here.

[0103] And here explains actuation when the TV phone mode and electronic camera mode which are a mode of operation to which image photography by the camera section 92 is performed are set up.

[0104] By predetermined directions actuation by the control unit 35, if starting with TV phone mode is specified, the main control section 91 will perform TV phone mode processing as shown in drawing 10.

[0105] In this TV phone mode processing, the main control section 91 incorporates first the control signal which control signal transducer 25c of the camera section 92 outputs through the camera interface section 93 (step ST 11).

[0106] Then, the main control section 91 recognizes the control signal which the above incorporated, and judges whether photography is forbidden or not (step ST 12).

[0107] And if it becomes, the main control section 91 will be performed with the procedure of common knowledge of TV phone processing in which a TV phone function is realized not to forbid photography (step ST 13).

[0108] On the other hand, if photography is forbidden, the main control section 91 performs the display for notifying a user of the purport to which photography is forbidden by LCD24 (step ST 14), and it will end the TV phone mode processing concerned, without performing TV phone processing.

[0109] Now, if starting with electronic camera mode is specified by predetermined directions actuation by the control unit 35, the main control section 91 will perform electronic camera mode processing as shown in drawing 11.

[0110] In this electronic camera mode processing, the main control section 91 incorporates first the control signal which control signal transducer 25c of the camera section 92 outputs through the camera interface section 93 (step ST 21).

[0111] Then, the main control section 91 recognizes the control signal which the above incorporated, and judges whether photography is forbidden or not (step ST 22).

[0112] And it performs with the procedure of common knowledge of the electronic camera processing for realizing the electronic camera function which the main control section 91 will store image data in image memory according to directions of a user, and will go if it becomes in which photography is not forbidden (step ST 23).

[0113] On the other hand, if photography is forbidden, the main control section 91 performs the display for notifying a user of the purport to which photography is forbidden by LCD24 (step ST 24), and it will end the electronic camera mode processing concerned, without performing electronic camera processing.

[0114] As mentioned above, according to this operation gestalt, although the photography actuation in the camera section 92 itself is performed even if photography is forbidden, it is performing neither transmission of image data, nor are recording to the image memory 94, and acquisition of an image is prevented.

[0115] It is possible to acquire the same effectiveness as said 1st operation gestalt also according to this operation gestalt in this way.

[0116] In addition, this invention is not limited to said each operation gestalt. For example, although image-sensors 25a shall be arranged in said each operation gestalt in the condition that the photography field 44 and the photography inhibiting-signal light-receiving field 45 are shown in drawing 4, the arrangement condition of the photography field 44 and the photography inhibiting-signal light-receiving field 45 may be arbitrary.

[0117] For example, drawing 12 is an example which has arranged the photography field 44 in the center of a service area, and has arranged the photography inhibiting-signal light-receiving field 45 to the perimeter. Drawing 13 is the example which made a part of service area bottom the photography inhibiting-signal light-receiving field 45 over full, and made all others the photography field 44. Drawing 14 is an example which has arranged discretely two or more photography inhibiting-signal light-receiving fields 45 which make a rectangle, respectively in the photography field 44. Drawing 15 is the example which was attached to several lines, made one line the photography inhibiting-signal light-receiving field 45, and made all others the photography field 44.

[0118] Since especially the thing done for the mask only of the photography inhibiting-signal light-receiving field 45 though arrangement of the photography inhibiting-signal light-receiving field 45 was known when it was the structure of drawing 12, drawing 14, and drawing 15 is difficult, it becomes difficult to perform the injustice it is made not to receive the photography inhibiting signal S by carrying out the mask only of the photography inhibiting-signal light-receiving field 45.

[0119] Moreover, with said each operation gestalt, although one image sensors are made to perform photography and light-receiving of the photography inhibiting signal S, the image sensors of dedication may be independently formed, respectively by the object for photography, and the object for light-receiving of the photography inhibiting signal S.

[0120] As shown in drawing 16 in this case, image formation of the light which carried out incidence from the optical system which an optical axis is changed 90 degrees, arranges two image sensors 25f and 25g, and does not illustrate them is carried out to image sensors [ 25f and 25g ] both sides by half mirror 25h. And what is necessary is just to arrange wavelength filter 25j of the property shown in wavelength filter 25i of the property shown in drawing 5, respectively between image-sensors 25f and half mirror 25h and between image-sensors 25g and half mirror 25h, and drawing 6.

[0121] Moreover, half mirror 25h is omitted in this case, and image-sensors 25f and wavelength filter 25i, and image-sensors 25g and wavelength filter 25j are turned in the same direction, and you may make it arrange them.

[0122] If these configurations are taken, it will become possible to use the existing cheap thing as image sensors 25f and 25g. In addition, in these configurations, it is also possible to use a photo transistor instead of image-sensors 25g.

[0123] Moreover, with said each operation gestalt, although the image acquisition locking device

of this invention is applied to the pocket mold TV phone terminal unit, it is applicable to other electronic image photography equipments, such as a digital still camera and a video camera. Or it is applicable by carrying out prohibition control of closing motion of a shutter to the camera using a silver halide film etc. based on the receiving result of the photography inhibiting signal S. If the camera section 25 of the 1st operation gestalt is used especially, the function to perform a photography limit can be added using the configuration of the existing digital still camera or a video camera as it is.

[0124] Moreover, the camera section 25 of said 1st operation gestalt is not limited to using for a pocket mold TV phone terminal unit, and may function also as independent photography equipment.

[0125] Moreover, although the network to connect is made into the PHS circuit with said each operation gestalt, also in the terminal linked to cable networks, such as not only a wireless network but the subscriber's loop, it is applicable.

[0126] Moreover, it is also possible to use the image sensors which have a light wave length selection property in the photo detector itself, and to omit a wavelength filter.

[0127] Moreover, although generation of image data and generation of a control signal were completed within the camera section 25 and 92 and were performed with said each operation gestalt, it may be made to perform these processings in the exterior 26 and 93 of the camera section, for example, the camera interface sections.

[0128] Moreover, with said each operation gestalt, although the time of transmission and reception of the photography inhibiting signal S is considered as the ban on photography, only when a photography enabling signal is transmitted and received conversely, it enables it to perform image acquisition of photography etc., and when other, the method of permitting no image acquisition is also considered. In this case, except the range at which a photography enabling signal arrives, all image acquisition is restricted and the image acquisition of it is attained only in the range at which a photography enabling signal arrives.

[0129] moreover — although the infrared light signal is used as a photography inhibiting signal S with said each operation gestalt — other invisible light — or it is also possible to use an electric wave. In using an electric wave, the antenna for the reception shares an antenna 29, or forms the antenna of dedication. Moreover, when using an electric wave, it is also more possible than the communication network under connection to give the instruction of authorization/disapproval of photography. In this case, separation detection is carried out in the PHS interface section, and that information is made to perform change directions of photography prohibition / authorization in the main control section 21.

[0130] In addition, deformation implementation various in the range which does not deviate from the summary of this invention is possible.

[0131]

[Effect of the Invention] The inhibiting signal which shows a predetermined prohibition or authorization of image acquisition actuation, and an enabling signal at least this invention either For example, the image acquisition permission-or-denial signal sending set which carries out wireless transmission with the lightwave signal (invisible lightwave signal) of a pattern predetermined on predetermined wavelength, the electric-wave signal of a pattern predetermined on predetermined wavelength, etc., An image acquisition limit system is constituted from an image acquisition locking device formed in the predetermined device which performs said image acquisition actuation. To said image acquisition locking device A permission-or-denial signal receiving means to receive said inhibiting signal transmitted from said image acquisition permission-or-denial signal sending set, and said enabling signal, When said image acquisition permission-or-denial signal sending set transmits said inhibiting signal and said inhibiting signal is received by said permission-or-denial signal receiving means Moreover, said device was equipped with an image acquisition prohibition means to forbid performing said image acquisition actuation, when said image acquisition permission-or-denial signal sending set transmitted only said enabling signal and said enabling signal was not received by said permission-or-denial signal receiving means.

[0132] This invention the inhibiting signal which shows prohibition of predetermined image



acquisition actuation Moreover, for example, the image acquisition inhibiting-signal sending set which carries out wireless transmission with the lightwave signal (invisible lightwave signal) of a pattern predetermined on predetermined wavelength, the electric-wave signal of a pattern predetermined on predetermined wavelength, etc., An image acquisition limit system is constituted from an image acquisition locking device formed in the predetermined device which performs said image acquisition actuation. To said image acquisition locking device It had an inhibiting-signal receiving means to receive said inhibiting signal transmitted from said image acquisition inhibiting-signal sending set, and image acquisition prohibition means, such as the main control section which forbids said device from performing said image acquisition actuation when said inhibiting signal is received by this inhibiting-signal receiving means.

[0133] The permission or denial of image acquisition is notified to an image acquisition locking device by these by signal transfer with the permission-or-denial signal receiving means or inhibiting-signal receiving means of an image acquisition permission-or-denial signal sending set or an image acquisition inhibiting-signal sending set, and an image acquisition locking device. When image acquisition is forbidden, generation / output actuation of image information, a send action, Or activation of image acquisition actuation called are recording actuation can be forbidden. Without restricting functions other than image acquisition of this result, for example, a voice message etc. The image acquisition permission-or-denial signal sending set and image acquisition locking device for building the image acquisition limit system which can restrict the image acquisition about a predetermined object certainly, and this image acquisition limit system can be offered.

[0134] And thereby, in a device with an image photography function, acquisition of the image about the photography object of arbitration and image acquisition in the location and field of arbitration can be restricted, and the outflow of image information to leak neither by the insurance of defense nor the reasons of a right can be prevented certainly.

[0135] moreover, according to this invention, when it changes to the condition of not being received from the condition that said inhibiting signal is received by said permission-or-denial signal receiving means, said image acquisition prohibition means Since it permitted that said device performed said image acquisition actuation according to the condition that said inhibiting signal was not received by said permission-or-denial signal receiving means after that having continued over predetermined time It is not judged with image acquisition having been permitted in the hits of an inhibiting signal, but after it becomes certain to have changed into the condition that an inhibiting signal does not come, it enables it to permit performing image acquisition actuation and to control permission or denial of image acquisition actuation to accuracy more.

[0136] Moreover, according to this invention, said inhibiting signal and said enabling signal are made into the lightwave signal of predetermined wavelength. And since a part of photoelectric element of a large number which constitute the image sensor which it has in order that said image pick-up equipment may generate image information was used in order to receive the lightwave signal of said predetermined wavelength While a single image sensor can perform generation of a video signal, and reception of said inhibiting signal and said enabling signal and being able to attain reduction of components mark, and the miniaturization of equipment, it becomes possible to receive certainly the inhibiting signal and enabling signal which come from the direction of a photography object.

[0137] Moreover, according to this invention, if predetermined limit discharge directions are made, said image acquisition prohibition means Since said device shall permit performing said image acquisition actuation irrespective of the receiving situation of said inhibiting signal by said permission-or-denial signal receiving means, or said enabling signal Even if it is in the situation that image acquisition actuation is forbidden, if limit discharge directions are made, image acquisition actuation can be performed, and image acquisition can be permitted only to the specific user who can perform limit discharge directions.

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TECHNICAL FIELD

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[Field of the Invention] This invention relates to the image acquisition permission-or-denial signal sending set and image acquisition locking device for building the image acquisition limit system for restricting the image acquisition actuation by the device which has a photography function, and this image acquisition limit system.

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PRIOR ART

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[Description of the Prior Art] In recent years, with development of mobile computing, an image photography function (camera function) is unified to a pocket mold communication terminal, and the pocket mold communication terminal which photos a location freely to \*\*\*\*\* and enabled it to transmit a quiescence image and a moving picture through mobile networks, such as PHS (Personal Handy Phone) and PDC (Personal Digital Cellular), is realized by the case with small extent kept in a pocket or a bag.

[0003] In these equipments, generally, the change of actuation / non-operating state of a camera function is controlled, when a user performs powering on/cutting to a camera function part, and connection/cutting of the channel to the communication terminal body section of a camera function part manually.

[0004] By the way, although there are the location and field which are considered as the ban on photography from the problem on defense and a right in a bank, or a theater and a movie theater, the miniaturization of camera equipment can progress and a shot can be sneaked easily. Moreover, it becomes possible to transmit the image photoed by combining with the above cellular phones to a remote place for a short time, and there is a possibility that the information which should be made secret may be revealed or the image information which does not obtain a right holder's permission may circulate on defense further.

[0005] In order to avoid such fault and to restrict a message with a cellular-phone terminal in a certain field, it covers with the wall and the structure with the property which does not let an electric wave pass for the field of the quality of the material, or there is a technique of sending the signal which imitated the signal of the connection refusal from a base station to a personal digital assistant, and restricting call origination and a call in.

[0006] however — up to the voice message which does not need to be forbidden according to such an approach — it cannot carry out — becoming — a user — superfluous — it becomes disadvantageous.

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EFFECT OF THE INVENTION

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[Effect of the Invention] This invention is the lightwave signal (invisible lightwave signal) of a pattern predetermined on predetermined wavelength, the electric-wave signal of a pattern predetermined on predetermined wavelength, etc. about either, even if there are few inhibiting signals which show a predetermined prohibition or authorization of image acquisition actuation, and enabling signals. An image acquisition limit system is constituted from an image acquisition permission-or-denial signal sending set which carries out wireless transmission, and an image acquisition locking device formed in the predetermined device which performs said image acquisition actuation. And a permission-or-denial signal receiving means to receive said inhibiting signal transmitted to said image acquisition locking device from said image acquisition permission-or-denial signal sending set, and said enabling signal, When said image acquisition permission-or-denial signal sending set transmits said inhibiting signal and said inhibiting signal is received by said permission-or-denial signal receiving means Moreover, said device was equipped with an image acquisition prohibition means to forbid performing said image acquisition actuation, when said image acquisition permission-or-denial signal sending set transmitted only said enabling signal and said enabling signal was not received by said permission-or-denial signal receiving means.

[0132] Moreover, this invention is an image acquisition inhibiting-signal sending set which carries out wireless transmission of the inhibiting signal which shows prohibition of predetermined image acquisition actuation with the lightwave signal (invisible lightwave signal) of a pattern predetermined on predetermined wavelength, the electric-wave signal of a pattern predetermined on predetermined wavelength, etc., It had an inhibiting-signal receiving means receive said inhibiting signal which constituted an image acquisition limit system from an image acquisition locking device formed in the predetermined device which performs said image acquisition actuation, and was transmitted from said image acquisition inhibiting-signal sending set to said image acquisition locking device, and image acquisition prohibition means, such as the main-control section which forbids [ that said device performs said image acquisition actuation and ] when said inhibiting signal is received by this inhibiting-signal receiving means.

[0133] By these, it is signal transfer with the permission-or-denial signal receiving means or inhibiting-signal receiving means of an image acquisition permission-or-denial signal sending set or an image acquisition inhibiting-signal sending set, and an image acquisition locking device. When the permission or denial of image acquisition is notified to an image acquisition locking device and image acquisition is forbidden Activation of image acquisition actuation, such as generation / output actuation of image information, a send action, or are recording actuation, can be forbidden. Without restricting functions other than image acquisition of this result, for example, a voice message etc. The image acquisition permission-or-denial signal sending set and image acquisition locking device for building the image acquisition limit system which can restrict the image acquisition about a predetermined object certainly, and this image acquisition limit system can be offered.

[0134] And thereby, in a device with an image photography function, acquisition of the image about the photography object of arbitration and image acquisition in the location and field of arbitration can be restricted, and the outflow of image information to leak neither by the

insurance of defense nor the reasons of a right can be prevented certainly.

[0135] Moreover, in this invention, it permitted that said device performed said image acquisition actuation according to the condition that said inhibiting signal was not received by said permission-or-denial signal receiving means after that having continued said image acquisition prohibition means over predetermined time when it changed to the condition of not being received from the condition that said inhibiting signal is received by said permission-or-denial signal receiving means. Therefore, it is not judged with image acquisition having been permitted in the hits of an inhibiting signal, but after it becomes certain to have changed into the condition that an inhibiting signal does not come, it enables it to permit performing image acquisition actuation and to control permission or denial of image acquisition actuation to accuracy more.

[0136] Moreover, a part of photoelectric element of a large number which constitute the image sensor which it has in order that said inhibiting signal and said enabling signal may be made into the lightwave signal of predetermined wavelength and said image pick-up equipment may generate image information from this invention was used in order to receive the lightwave signal of said predetermined wavelength. Therefore, while a single image sensor can perform generation of a video signal, and reception of said inhibiting signal and said enabling signal and being able to attain reduction of components mark, and the miniaturization of equipment, it becomes possible to receive certainly the inhibiting signal and enabling signal which come from the direction of a photography object.

[0137] Moreover, in this invention, if predetermined limit discharge directions are made in said image acquisition prohibition means, said device shall permit performing said image acquisition actuation irrespective of the receiving situation of said inhibiting signal by said permission-or-denial signal receiving means, or said enabling signal. Therefore, even if it is in the situation that image acquisition actuation is forbidden, if limit discharge directions are made, image acquisition actuation can be performed, and image acquisition can be permitted only to the specific user who can perform limit discharge directions.

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TECHNICAL PROBLEM

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[Problem(s) to be Solved by the Invention] It is difficult to restrict conventionally the image acquisition which used the camera etc. certainly as mentioned above, and there was fault that image acquisition in the location where it is unsuitable that image acquisition is performed will be performed easily.

[0008] When this invention is made in consideration of such a situation and it considers as that purpose, it is in offering the image acquisition permission-or-denial signal sending set and image acquisition locking device for building the image acquisition limit system which can restrict the image acquisition about a predetermined object certainly, and this image acquisition limit system, without restricting functions other than image acquisition of a voice message etc.

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## MEANS

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[Means for Solving the Problem] In order to attain the above purpose, this invention is predetermined image acquisition actuation (for example, output [ generation and ] actuation of image information). The inhibiting signal which shows prohibition or authorization of a send action or are recording actuation, and an enabling signal at least either For example, image acquisition permission-or-denial signal sending sets, such as for example, a photography inhibiting-signal sending set which carries out wireless transmission with the lightwave signal (invisible lightwave signal) of a pattern predetermined on predetermined wavelength, the electric-wave signal of a pattern predetermined on predetermined wavelength, etc., the predetermined device (for example, photography equipment and a communication terminal —) which performs said image acquisition actuation An image acquisition limit system is constituted from an image acquisition locking device formed in image are recording equipment etc. or to said image acquisition locking device The permission-or-denial signal receiving means which receives said inhibiting signal transmitted from said image acquisition permission-or-denial signal sending set, and said enabling signal, for example, consists of image sensors and a control signal transducer, When said image acquisition permission-or-denial signal sending set transmits said inhibiting signal and said inhibiting signal is received by said permission-or-denial signal receiving means Moreover, when said image acquisition permission-or-denial signal sending set transmits only said enabling signal and said enabling signal is not received by said permission-or-denial signal receiving means Said device forbids performing said image acquisition actuation, for example, was equipped with image acquisition prohibition means, such as an image data output control section and the main control section.

[0010] Moreover, this invention is predetermined image acquisition actuation (for example, output [ generation and ] actuation of image information). The inhibiting signal which shows prohibition of a send action or are recording actuation For example, image acquisition inhibiting-signal sending sets, such as for example, a photography inhibiting-signal sending set which carries out wireless transmission with the lightwave signal (invisible lightwave signal) of a pattern predetermined on predetermined wavelength, the electric-wave signal of a pattern predetermined on predetermined wavelength, etc., the predetermined device (for example, photography equipment and a communication terminal —) which performs said image acquisition actuation An image acquisition limit system is constituted from an image acquisition locking device formed in image are recording equipment etc. or to said image acquisition locking device When said inhibiting signal transmitted from said image acquisition inhibiting-signal sending set is received, for example, said inhibiting signal is received by the inhibiting-signal receiving means which consists of image sensors and a control signal transducer, and this inhibiting-signal receiving means Said device forbids performing said image acquisition actuation, for example, was equipped with image acquisition prohibition means, such as an image data output control section and the main control section.

[0011] When the permission or denial of image acquisition is notified to an image acquisition locking device by signal transfer with the permission-or-denial signal receiving means or the inhibiting-signal receiving set of an image acquisition permission-or-denial signal sending set or an image acquisition inhibiting-signal sending set, and an image acquisition locking device and

image acquisition is forbidden by having provided these means, activation of image acquisition actuation, such as generation / output actuation of image information, a send action, or are-recording actuation, is forbidden.

[0012] Moreover, this invention permitted that said device performed said image acquisition actuation according to the condition that said inhibiting signal was not received by said permission-or-denial signal receiving means after that having continued said image acquisition prohibition means over predetermined time when it changed to the condition of not being received from the condition that said inhibiting signal is received by said permission-or-denial signal receiving means.

[0013] By having provided such a means, by the hits of an inhibiting signal, it is not judged with image acquisition having been permitted, but after it becomes certain to have changed into the condition that an inhibiting signal does not come, performing image acquisition actuation is permitted.

[0014] Moreover, a part of photoelectric element of a large number which it has in order that said inhibiting signal and said enabling signal may be made into the lightwave signal of predetermined wavelength and said image pick-up equipment may generate image information and which constitute image sensors, such as image sensors, for example was used for this invention in order to receive the lightwave signal of said predetermined wavelength.

[0015] By having provided such a means, generation of a video signal and reception of said inhibiting signal and said enabling signal are performed by the single image sensor.

[0016] Moreover, this invention shall permit that said device performs said image acquisition actuation irrespective of the receiving situation of said inhibiting signal by said permission-or-denial signal receiving means, or said enabling signal, if predetermined limit discharge directions are made in said image acquisition prohibition means.

[0017] Even if it is in the situation that image acquisition actuation is forbidden by having provided such a means, if limit discharge directions are made, image acquisition actuation will be performed.

[0018]

[Embodiment of the Invention] (1st operation gestalt) The 1st operation gestalt of the image acquisition limit system of this invention is explained hereafter, referring to a drawing.

[0019] Drawing 1 is drawing showing the image acquisition limit structure of a system concerning this operation gestalt.

[0020] As shown in this drawing, the image acquisition limit system of this operation gestalt consists of a pocket mold TV phone terminal unit 2 with the camera section which comes to apply the photography inhibiting-signal sending set 1 which becomes with the application of the image acquisition permission-or-denial signal sending set of this invention, and the image acquisition locking device of this invention.

[0021] The photography inhibiting-signal sending set 1 is arranged at head lining near the photography prohibition objects 3, such as a screen of a movie theater, etc., and transmits the photography inhibiting signal S which consists of an infrared light signal with a predetermined luminescence pattern.

[0022] The pocket mold TV phone terminal unit 2 can picturize an image, and it has the function to transmit the photoed image to a remote place through a PHS communication network, besides the function to perform a voice message.

[0023] Drawing 2 is the block diagram showing the concrete example of a configuration of the photography inhibiting-signal sending set 1 in drawing 1.

[0024] As shown in this drawing, the photography inhibiting-signal sending set 1 of this operation gestalt has the pattern generation section 11, the LED mechanical component 12, and LED (light emitting diode)13. In others, although illustration is omitted in drawing 2, it has a power supply section for supplying the power for operating above-mentioned each part.

[0025] The pattern generation section 11 generates electrically a pattern train with the ON/OFF pattern according to the luminescence pattern set to photography inhibiting-signal S, and gives it to the LED mechanical component 12.

[0026] The LED mechanical component 12 blinks LED13 according to the pattern train given



from the pattern generation section 11.

[0027] According to the drive by the LED mechanical component 12, LED13 is carrying out flashing luminescence of the infrared light, and transmits the photography inhibiting signal S.

[0028] Drawing 3 is the block diagram showing the important section configuration of the pocket mold TV phone terminal unit 2 concerning this operation gestalt.

[0029] As shown in this drawing, the pocket mold TV phone terminal unit 2 concerning this operation gestalt The main control section 21, the image codec 22, the LCD interface section ( ) [ LCD ] The IF section 23, LCD 24, the camera section 25, the camera interface section (Liquid crystal display) 26, the demultiplexing section 27, the PHS circuit interface section (PHS circuit I/F section) 28, an antenna 29, the voice codec 30, a microphone 31, the microphone interface section (microphone IF section) 32, the loudspeaker interface section (Camera I/F section) (Loudspeaker IF section) It has 33, a loudspeaker 34, a control unit 35, and the actuation input-control circuit section 36.

[0030] Among these, the main control section 21, the image codec 22, the LCD interface section 23, the camera interface section 26, the demultiplexing section 27, the PHS circuit interface section 28, the voice codec 30, and the actuation input-control circuit section 36 are mutually connected through the main bus 37. Moreover, the demultiplexing section 27 is connected with the image codec 22, the PHS circuit interface section 28, and the voice codec 30 through the synchronous buses 38, 39, and 40, respectively.

[0031] The main control section 21 realizes actuation as a pocket mold TV phone terminal by coming to have CPU, ROM, RAM, etc. and carrying out generalization control of each part of this pocket mold TV phone terminal unit 2. This main control section 21 realizes the processing means for realizing various kinds of functions by software processing.

[0032] The image codec 22 gives the image data which decoded coding image data and were reproduced to the LCD interface section 23. Moreover, the image codec 22 encodes the image data given through the camera interface section 26 from the camera section 25, and obtains the coding image data of an MPEG4 method.

[0033] The LCD interface section 23 is given to LCD24 after changing the given image data into the signal format which can be processed by LCD24. LCD24 is the indicator of a color with sufficient display capacity (resolution etc.) to display moving pictures, such as MPEG4, or monochrome, is given from the LCD interface section 23, and displays an image based on image data.

[0034] Using a CCD camera etc., the camera section 25 generates image data and gives them to the camera interface section 26. The camera interface section 26 is given to the image codec 22 after changing the image data given from the camera section 25 into the signal format which can be processed by the image codec 22. The camera interface section 26 transmits the photography prohibition discharge command to the camera section 25 again, when a photography prohibition discharge command is given from the main control section 21.

[0035] The demultiplexing section 27 is given through the main bus 37 from the coding image data given through the synchronous bus 38 from the image codec 22, the coding voice data given through the voice codec 30 to the synchronous bus 40, and the main control section 21, and also it multiplexes data with a predetermined multiplex system (for example, ITU-T recommendation H.221 grade), and gives the transmission data obtained by this through the synchronous bus 39 to the PHS circuit interface section 28. Moreover, the demultiplexing section 27 separates coding image data, coding voice data, and other data from the transmission data given through the synchronous bus 39 from the PHS circuit interface section 28, respectively, and gives each of these data through the synchronous buses 38 and 40 and the main bus 37 to each of the image codec 22, the voice codec 30, and the main control section 21.

[0036] It is connectable with a PHS network by wireless through an antenna 29, and data are transmitted [ the PHS circuit interface section 28 ] and received through the communication path set as the PHS screen oversize while performing various kinds of call processing for performing the communication link through a PHS network.

[0037] The voice codec 30 is outputted from a microphone 31, is encoded by the predetermined

voice coding method (for example, ITU-T recommendation G.724 grade), and obtains coding voice data while it digitizes the sound signal given through the microphone interface section 32. The voice codec 30 gives this coding voice data to the demultiplexing section 27 through the synchronous bus 40. Moreover, the voice codec 30 analogizes as if the coding voice data given from the demultiplexing section 27 is decoded, acquires a sound signal, and gives this sound signal to the loudspeaker interface section 33.

[0038] A microphone 31 changes surrounding voice into a sound signal, and gives it to the microphone interface section 32. The microphone interface section 32 is given to the voice codec 30 after changing the sound signal given from the microphone 31 into the signal format which can be processed by the voice codec 30.

[0039] The loudspeaker interface section 33 is given to a loudspeaker 34 after changing the sound signal given from the voice codec 30 into the signal format which can be processed by the loudspeaker 34. A loudspeaker 34 outputs as voice the sound signal given from the loudspeaker interface section 33.

[0040] A control unit 35 is for receiving various kinds of directions inputs to the main control section 21 by the user, and has the electric power switch for receiving assignment of ON/OFF of actuation of the dial carbon button group for receiving assignment of the manual operation button group which receives assignment of various kinds of functions, the telephone number, or various kinds of numeric values, or this equipment etc. The actuation input-control circuit section 36 recognizes the contents of the directions actuation by the control unit 35, and notifies it to the main control section 21.

[0041] In addition, although illustration is omitted, the power supply section which supplies the power for operating each part mentioned above as a component of this equipment exists.

[0042] By the way, the camera section 25 has image-sensors 25a, image data-conversion section 25b, control signal transducer 25c, 25d of command directions sections, and image data output control-section 25e further.

[0043] Image-sensors 25a generates the electrical signal according to the light figure in which image formation was carried out by the optical system which is not illustrated using a CCD area sensor etc. The electrical signal generated by this image-sensors 25a is given to image data-conversion section 25b and control signal transducer 25c, respectively.

[0044] In addition, as shown in drawing 4, the wavelength filters 42 and 43 with a mutually different light transmission property are formed in the photography side of image-sensors 25a so that two mutually different fields in the service area may be covered.

[0045] The wavelength filter 42 has a light transmission property as shown in drawing 5. That is, the wavelength filter 42 penetrates only the effective light as a usual image, and it is made it to carry out image formation to a photo detector. Moreover, the wavelength filter 43 has a light transmission property as shown in drawing 6. That is, the wavelength filter 43 penetrates only the infrared light of non-\*\*\*\*, and it is made it to carry out image formation to a photo detector. As for the wavelength from which the permeability in the wavelength filter 42 serves as max, it is desirable that it is in agreement with the wavelength of the photography inhibiting signal S which the photography inhibiting-signal sending set 1 transmits.

[0046] The field covered with the wavelength filter 42 turns into the photography field 44 in this way, and the field covered with the wavelength filter 43 is the photography inhibiting-signal light-receiving field 45.

[0047] Image data-conversion section 25b extracts an outputted part from the photography field 44 from the electrical signal given from image-sensors 25a, and changes it into the image data of a predetermined gestalt. And image data-conversion section 25b gives this image data to image data output control-section 25e.

[0048] Control signal transducer 25c extracts an outputted part from the photography inhibiting-signal light-receiving field 45 from the electrical signal given from image-sensors 25a, and changes it into the control signal according to the existence of arrival of the photography inhibiting signal S. And control signal transducer 25c gives this control signal to image data output control-section 25e.

[0049] 25d of command directions sections gives a photography prohibition discharge signal to

image data output control-section 25e, when a photography prohibition discharge command is given through the camera interface section 26 from the main control section 21.

[0050] Image data output control-section 25e carries out ON/OFF control of the output to the camera interface section 26 of the image data given from image data-conversion section 25b based on the condition of the control signal given from control signal transducer 25c, and the existence of supply of the photography prohibition discharge signal from 25d of command directions sections.

[0051] In addition, it is accumulated as an integrated circuit of for example, one chip, each part of this camera section 25 may apply what functions also as independent photography equipment, and it may be made to realize other each part as an addition circuit using image-sensors 25a which added the wavelength filters 42 and 43 to the existing CCD sensor etc.

[0052] Drawing 7 is drawing showing the appearance of the pocket mold TV phone terminal unit 2 of this operation gestalt. In addition, the same number is given to the same part as drawing 3.

[0053] As shown in this drawing, the pocket mold TV phone terminal unit 2 has the case B of a core box, and it is equipped with each component mentioned above in this case B.

[0054] The main control section 21, the image codec 22, the LCD interface section 23, the camera interface section 26, the demultiplexing section 27, the PHS circuit interface section 28, the voice codec 30, the microphone interface section 32, the loudspeaker interface section 33, and the actuation input-control circuit section 36 are held in the interior of Case B, after all are mounted on the one main substrate.

[0055] LCD24 is formed where the screen is exposed outside from the whole surface of a case.

[0056] Many, such as a carbon button of a control unit 35, are collectively prepared in the field (the front face of a case is called hereafter) in which LCD24 is formed. Between each carbon button, a case is held single hand, when [ each ] it is operated with another finger, suitable spacing is taken and it is arranged so that a depression can be carried out [ one ] certainly.

[0057] The microphone 31 and the loudspeaker 34 are arranged up and down so that the front face of a case may pinch LCD24 and a control unit 35. As for spacing of this microphone 31 and loudspeaker 34, it is possible for it to be set up in consideration of average human being's lug and spacing of opening, and to make a user's lug and opening approach at coincidence, respectively at the time of a message. That is, this pocket mold TV phone terminal unit 2 is a thing with the function of the hand set in telephone usual in the case B itself.

[0058] Next, it explains per actuation of the image acquisition limit system constituted as mentioned above.

[0059] First, the manager of the photography prohibition objects 3, such as a theater manager, arranges the photography inhibiting-signal sending set 1 near the photography prohibition object 3, and is taken as operating state.

[0060] If it does so, the photography inhibiting-signal sending set 1 will transmit the photography inhibiting signal S around the photography prohibition object 3. In addition, since this photography inhibiting signal S is un-visible infrared light, it does not become the hindrance of a spectator etc. viewing the photography prohibition object 3.

[0061] Now, although it has the usual PHS telephone function which enables only a voice message as main functions, the pocket mold TV phone terminal unit 2 is the same as that of the usual PHS telephone terminal about this, and since it is not the summary of this invention, it is omitted here.

[0062] And here explains actuation when the TV phone mode in which image photography by the camera section 25 is performed is set up.

[0063] When a call request is made from this pocket mold TV phone terminal unit 2 or the call in from the end of the other end occurs, the main control section 21 is performed in the general procedure of common knowledge of setting processing of a call. Processing is ended, after carrying out singing of the loudspeaker 34 and notifying a user of that, when a call is unestablishable by the cause of a phase hand busy or a poor circuit at this time.

[0064] If a call is established normally, this pocket mold TV phone terminal unit 2 and an other party terminal will serve as voice talk mode, and the message of them with voice will be attained.

[0065] Then, the negotiation of a capacity check of an image communication link is performed between other party terminals. When there is no response from an other party terminal, or when there is a response of refusal, processing is ended there, and an audio communication link is continued.

[0066] If the response of the purport to which an image communication link is permitted from an other party terminal is returned and it is checked that an image communication link is possible mutual, the image codec 22, the camera section 25, and the camera interface section 26 will become effective, and the image communication link of them will be attained.

[0067] Although image data are generated by image data-conversion section 25b in the camera section 25 from the electrical signal generated by image-sensors 25a, the output of this image data is controlled by image data output control-section 25e as follows here.

[0068] Supposing it is located in the arrival range of the photography inhibiting signal S in which this pocket mold TV phone terminal unit 2 was transmitted by the photography inhibiting-signal sending set 1, this photography inhibiting signal S will be received in the photography inhibiting-signal light-receiving field 45 of image-sensors 25a. So, in control signal transducer 25c, an outputted part from the photography inhibiting-signal light-receiving field 45 supervises whether it has the predetermined pattern as a photography inhibiting signal S, and is outputting the control signal which shows the monitor result.

[0069] The photography inhibiting signal S does not arrive at this pocket mold TV phone terminal unit 2, but if the control signal shows that the photography inhibiting signal S has not come, image data output control-section 25e will give the image data given from image data-conversion section 25b to the camera interface section 26.

[0070] If it does so, image data will be given to the demultiplexing section 27, after the image codec 22 encodes, while being changed into the signal format which can be processed by the image codec 22 by the camera interface section 26.

[0071] In this way, in this condition, image data are multiplexed in the speech information and the demultiplexing section 27 which were sent from the voice codec 30, and are transmitted to an other party terminal by the PHS circuit interface section 28 through a PHS network.

[0072] However, the photography inhibiting signal S has arrived at this pocket mold TV phone terminal unit 2, and if the control signal shows that the photography inhibiting signal S has come, image data output control-section 25e will not output the image data given from image data-conversion section 25b.

[0073] In this way, in this condition, image data are not given to the demultiplexing section 27, and transmission of image data is not performed. Therefore, photography of an image and transmission of an image are not performed.

[0074] In addition, when it is in such a condition, it is good to be made to perform the display for notifying a user of the purport to which the main control section 21 recognizes that and photography is forbidden to LCD24.

[0075] Now, if the photography inhibiting signal S is no longer detected by that transmission of the photography inhibiting signal S is suspended according to the situation of the show of a movie having been completed, for example, or a user moves, and this pocket mold TV phone terminal unit 2 separates from the arrival range of the photography inhibiting signal S etc. by control signal transducer 25c, image data output control-section 25e starts the output of image data, and transmission of photography and image data can be performed.

[0076] In addition, it is desirable to have that the condition that the photography inhibiting signal S was undetectable continued over fixed time amount in order to prevent that photography will be started in such a case, since it thinks also when arrival of the photography inhibiting signal S carries out hits, and to cancel the block status of image data output according to situations, like a body crosses the front at this time 25, for example, the camera section.

[0077] On the other hand, if a user specifies photography prohibition discharge by predetermined directions actuation by the control unit 35 in the condition that the camera section 25 does not output image data, the main control section 21 will perform photography prohibition discharge processing as shown in drawing 8.

[0078] In this photography prohibition discharge processing, the main control section 21 receives

the input of a personal identification number first (step ST 1).

[0079] Then, it judges whether the inputted personal identification number of the main control section 21 corresponds with the specific personal identification number beforehand decided in order to cancel the ban on photography (step ST 2), and only when in agreement, a photography prohibition command is given to the camera section 25 through the camera interface section 26 (step ST 3).

[0080] In the camera section 25, the photography prohibition command given through the camera interface section 26 is given at 25d of command directions sections. If it does so, 25d of command directions sections will give a photography prohibition discharge signal to image data output control-section 25e.

[0081] Image data output control-section 25e will output image data irrespective of the condition of a control signal, if a photography prohibition discharge signal is given.

[0082] In addition, if it is made to change a personal identification number according to the pattern of the photography inhibiting signal S, the personal identification number for canceling the ban on photography the whole location can be changed, and it will become more convenient.

[0083] In this way, according to this operation gestalt, in the range at which the photography inhibiting signal S transmitted from the photography inhibiting-signal sending set 1 arrives, the camera section 25 does not output a video signal and photography is not performed. Thereby, it can prevent certainly that the photography prohibition object 3 will be photoed.

[0084] And since according to this operation gestalt only photography actuation is forbidden and the communication link is made possible, a voice message is not restricted.

[0085] Moreover, since according to this operation gestalt infrared light is used for the photography inhibiting signal S and it is made to perform light-receiving of the photography inhibiting signal S by image-sensors 25a for photography, it is difficult to cover the photography inhibiting signal S, and can prevent that photography is performed unjustly.

[0086] Moreover, by using infrared light for the photography inhibiting signal S, the conditions which forbid photography by the method of arrangement of the photography inhibiting-signal sending set 1 can be adjusted. That is, for example, if the photography inhibiting signal S is transmitted only from the photography prohibition object 3 side, only when the camera section 25 is turned to the direction of the photography prohibition object 3, photography can be forbidden. Therefore, when photoing the face of the user who has met the photography prohibition object 3, a limit of photography will be received, and it is not necessary to restrict the function as a TV phone.

[0087] Moreover, since according to this operation gestalt photography is made possible by inputting a specific personal identification number even when the photography inhibiting signal S reaches, it is effective when permitting photography only to those who obtained special permission of an official in charge, the report persons concerned, etc., for example.

[0088] (2nd operation gestalt) Then, the 2nd operation gestalt of the image acquisition limit system of this invention is explained, referring to a drawing.

[0089] The whole image acquisition limit system configuration concerning this operation gestalt and the configuration of the photography inhibiting-signal sending set 1 are the same as that of said 1st operation gestalt.

[0090] And it is the configuration of the pocket mold TV phone terminal unit 2 that the image acquisition limit system of this operation gestalt differs from said 1st operation gestalt.

[0091] Drawing 9 is the block diagram showing the concrete example of a configuration of the pocket mold TV phone terminal unit 2 in this operation gestalt. In addition, the same sign is given to the same part as drawing 3, and the detailed explanation is omitted.

[0092] As shown in this drawing, the pocket mold TV phone terminal unit 2 concerning this operation gestalt The image codec 22, the LCD interface section ( ) [ LCD ] The IF section 23, LCD 24, the demultiplexing section 27, the PHS circuit interface section (PHS circuit IF section) 28, an antenna 29, the voice codec 30, a microphone 31, the microphone interface section (microphone IF section) 32, the loudspeaker interface section (Liquid crystal display) (Loudspeaker IF section) It has 33, a loudspeaker 34, a control unit 35, the actuation input-control circuit section 36, the main control section 91, the camera section 92, the camera

interface section (camera IF section) 93, and the image memory 94.

[0093] Among these, the image codec 22, the LCD interface section 23, the demultiplexing section 27, the PHS circuit interface section 28, the voice codec 30, the actuation input-control circuit section 36, the main control section 91, the camera interface section 93, and the image memory 94 of each other are connected through the main bus 37. Moreover, the demultiplexing section 27 is connected with the image codec 22, the PHS circuit interface section 28, and the voice codec 30 through the synchronous buses 38, 39, and 40, respectively.

[0094] That is, the pocket mold TV phone terminal unit 2 of this operation gestalt is what was newly equipped with the image memory 94 while replacing it with the main control section 21 in the pocket mold TV phone terminal unit 2, the camera section 25, and the camera interface section 26 of said 1st operation gestalt and equipping it with the main control section 91, the camera section 92, and the camera interface section 93.

[0095] The main control section 91 realizes actuation as a pocket mold TV phone terminal by coming to have CPU, ROM, RAM, etc. and carrying out generalization control of each part of this pocket mold TV phone terminal unit 2. This main control section 91 realizes the processing means for realizing various kinds of functions by software processing. The processing means realized by software processing differ, and this main control section 91 can perform processing mentioned later, although the hard configuration is the same as that of the main control section 21 in said 1st operation gestalt.

[0096] Using a CCD camera etc., the camera section 92 generates image data and gives them to the camera interface section 93. The camera section 92 performs the arrival monitor of the photography inhibiting signal S, and gives the control signal which shows the existence of the photography inhibiting signal S to the camera interface section 93 again.

[0097] The camera interface section 93 is given to the image codec 22 after changing the image data given from the camera section 92 into the signal format which can be processed by the image codec 22. The camera interface section 93 gives the control signal given from the camera section 92 to the main control section 91 through the main bus 37 again, after changing into the signal format which can be recognized in the main control section 91.

[0098] The image memory 94 stores image data coming [ DRAM, a flash memory, etc. ] to use.

[0099] By the way, the camera section 92 has image-sensors 25a, image data-conversion section 25b, control signal transducer 25c, and image data output control-section 25e further.

[0100] That is, the camera section 92 is what was changed so that the control signal which control signal transducer 25c generates might be given to the camera interface section 93 while eliminating 25d of command directions sections in the camera section 25 of said 1st operation gestalt.

[0101] Next, actuation of the image acquisition limit system constituted as mentioned above is explained focusing on actuation of the pocket mold TV phone terminal unit 2.

[0102] Now, although the pocket mold TV phone terminal unit 2 has the usual PHS telephone function which enables only a voice message as main functions also with this operation gestalt, about this, it is the same as that of the usual PHS telephone terminal, and since it is not the summary of this invention, it omits here.

[0103] And here explains actuation when the TV phone mode and electronic camera mode which are a mode of operation to which image photography by the camera section 92 is performed are set up.

[0104] By predetermined directions actuation by the control unit 35, if starting with TV phone mode is specified, the main control section 91 will perform TV phone mode processing as shown in drawing 10.

[0105] In this TV phone mode processing, the main control section 91 incorporates first the control signal which control signal transducer 25c of the camera section 92 outputs through the camera interface section 93 (step ST 11).

[0106] Then, the main control section 91 recognizes the control signal which the above incorporated, and judges whether photography is forbidden or not (step ST 12).

[0107] And if it becomes, the main control section 91 will be performed with the procedure of common knowledge of TV phone processing in which a TV phone function is realized not to

forbid photography (step ST 19).

[0108] On the other hand, if photography is forbidden, the main control section 91 performs the display for notifying a user of the purport to which photography is forbidden by LCD24 (step ST 14), and it will end the TV phone mode processing concerned, without performing TV phone processing.

[0109] Now, if starting with electronic camera mode is specified by predetermined directions actuation by the control unit 35, the main control section 91 will perform electronic camera mode processing as shown in drawing 11 .

[0110] In this electronic camera mode processing, the main control section 91 incorporates first the control signal which control signal transducer 25c of the camera section 92 outputs through the camera interface section 93 (step ST 21).

[0111] Then, the main control section 91 recognizes the control signal which the above incorporated, and judges whether photography is forbidden or not (step ST 22).

[0112] And it performs with the procedure of common knowledge of the electronic camera processing for realizing the electronic camera function which the main control section 91 will store image data in image memory according to directions of a user, and will go if it becomes in which photography is not forbidden (step ST 23).

[0113] On the other hand, if photography is forbidden, the main control section 91 performs the display for notifying a user of the purport to which photography is forbidden by LCD24 (step ST 24), and it will end the electronic camera mode processing concerned, without performing electronic camera processing.

[0114] As mentioned above, according to this operation gestalt, although the photography actuation in the camera section 92 itself is performed even if photography is forbidden, it is performing neither transmission of image data, nor are recording to the image memory 94, and acquisition of an image is prevented.

[0115] It is possible to acquire the same effectiveness as said 1st operation gestalt also according to this operation gestalt in this way.

[0116] In addition, this invention is not limited to said each operation gestalt. For example, although image-sensors 25a shall be arranged in said each operation gestalt in the condition that the photography field 44 and the photography inhibiting-signal light-receiving field 45 are shown in drawing 4 , the arrangement condition of the photography field 44 and the photography inhibiting-signal light-receiving field 45 may be arbitrary.

[0117] For example, drawing 12 is an example which has arranged the photography field 44 in the center of a service area, and has arranged the photography inhibiting-signal light-receiving field 45 to the perimeter. Drawing 13 is the example which made a part of service area bottom the photography inhibiting-signal light-receiving field 45 over full, and made all others the photography field 44. Drawing 14 is an example which has arranged discretely two or more photography inhibiting-signal light-receiving fields 45 which make a rectangle, respectively in the photography field 44. Drawing 15 is the example which was attached to several lines, made one line the photography inhibiting-signal light-receiving field 45, and made all others the photography field 44.

[0118] Since especially the thing done for the mask only of the photography inhibiting-signal light-receiving field 45 though arrangement of the photography inhibiting-signal light-receiving field 45 was known when it was the structure of drawing 12 , drawing 14 , and drawing 15 is difficult, it becomes difficult to perform the injustice it is made not to receive the photography inhibiting signal S by carrying out the mask only of the photography inhibiting-signal light-receiving field 45.

[0119] Moreover, with said each operation gestalt, although one image sensors are made to perform photography and light-receiving of the photography inhibiting signal S, the image sensors of dedication may be independently formed, respectively by the object for photography, and the object for light-receiving of the photography inhibiting signal S.

[0120] As shown in drawing 16 in this case, image formation of the light which carried out incidence from the optical system which an optical axis is changed 90 degrees, arranges two image sensors 25f and 25g, and does not illustrate them is carried out to image sensors [ 25f and

25g ] both sides by half mirror 25h. And what is necessary is just to arrange wavelength filter 25j of the property shown in wavelength filter 25i of the property shown in drawing 5 , respectively between image-sensors 25f and half mirror 25h and between image-sensors 25g and half mirror 25h, and drawing 6 .

[0121] Moreover, half mirror 25h is omitted in this case, and image-sensors 25f and wavelength filter 25i, and image-sensors 25g and wavelength filter 25j are turned in the same direction, and you may make it arrange them.

[0122] If these configurations are taken, it will become possible to use the existing cheap thing as image sensors 25f and 25g. In addition, in these configurations, it is also possible to use a photo transistor instead of image-sensors 25g.

[0123] Moreover, with said each operation gestalt, although the image acquisition locking device of this invention is applied to the pocket mold TV phone terminal unit, it is applicable to other electronic image photography equipments, such as a digital still camera and a video camera. Or it is applicable by carrying out prohibition control of closing motion of a shutter to the camera using a silver halide film etc. based on the receiving result of the photography inhibiting signal S. If the camera section 25 of the 1st operation gestalt is used especially, the function to perform a photography limit can be added using the configuration of the existing digital still camera or a video camera as it is.

[0124] Moreover, the camera section 25 of said 1st operation gestalt is not limited to using for a pocket mold TV phone terminal unit, and may function also as independent photography equipment.

[0125] Moreover, although the network to connect is made into the PHS circuit with said each operation gestalt, also in the terminal linked to cable networks, such as not only a wireless network but the subscriber's loop, it is applicable.

[0126] Moreover, it is also possible to use the image sensors which have a light wave length selection property in the photo detector itself, and to omit a wavelength filter.

[0127] Moreover, although generation of image data and generation of a control signal were completed within the camera section 25 and 92 and were performed with said each operation gestalt, it may be made to perform these processings in the exterior 26 and 93 of the camera section, for example, the camera interface sections.

[0128] Moreover, with said each operation gestalt, although the time of transmission and reception of the photography inhibiting signal S is considered as the ban on photography, only when a photography enabling signal is transmitted and received conversely, it enables it to perform image acquisition of photography etc., and when other, the method of permitting no image acquisition is also considered. In this case, except the range at which a photography enabling signal arrives, all image acquisition is restricted and the image acquisition of it is attained only in the range at which a photography enabling signal arrives.

[0129] moreover — although the infrared light signal is used as a photography inhibiting signal S with said each operation gestalt — other invisible light — or it is also possible to use an electric wave. In using an electric wave, the antenna for the reception shares an antenna 29, or forms the antenna of dedication. Moreover, when using an electric wave, it is also more possible than the communication network under connection to give the instruction of authorization/disapproval of photography. In this case, separation detection is carried out in the PHS interface section, and that information is made to perform change directions of photography prohibition / authorization in the main control section 21.

[0130] In addition, deformation implementation various in the range which does not deviate from the summary of this invention is possible.

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[Translation done.]



\* NOTICES \*

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- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.\*\*\*\* shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

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## DESCRIPTION OF DRAWINGS

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### [Brief Description of the Drawings]

[Drawing 1] Drawing showing the image acquisition limit structure of a system concerning the 1st operation gestalt of this invention.

[Drawing 2] The block diagram showing the concrete example of a configuration of the photography inhibiting-signal sending set 1 in drawing 1 .

[Drawing 3] The block diagram showing the important section configuration of the pocket mold TV phone terminal unit 2 in drawing 1 .

[Drawing 4] Drawing showing the arrangement situation of the photography field 44 in image-sensors 25a, and the photography inhibiting-signal light-receiving field 45.

[Drawing 5] Drawing showing the light transmission property of the wavelength filter 42 in drawing 4 .

[Drawing 6] Drawing showing the light transmission property of the wavelength filter 43 in drawing 4 .

[Drawing 7] Drawing showing the appearance of the pocket mold TV phone terminal unit 2 in drawing 1 .

[Drawing 8] The flow chart which shows the procedure in the case of the photography prohibition discharge processing by the main control section 21 in drawing 3 .

[Drawing 9] The block diagram showing the important section configuration of the pocket mold TV phone terminal unit 2 in the 2nd operation gestalt.

[Drawing 10] The flow chart which shows the procedure in the case of the TV phone mode processing by the main control section 91 in drawing 9 .

[Drawing 11] The flow chart which shows the procedure in the case of the electronic camera mode processing by the main control section 91 in drawing 9 .

[Drawing 12] Drawing showing the modification of the arrangement situation of the photography field 44 in image sensors, and the photography inhibiting-signal light-receiving field 45.

[Drawing 13] Drawing showing the modification of the arrangement situation of the photography field 44 in image sensors, and the photography inhibiting-signal light-receiving field 45.

[Drawing 14] Drawing showing the modification of the arrangement situation of the photography field 44 in image sensors, and the photography inhibiting-signal light-receiving field 45.

[Drawing 15] Drawing showing the modification of the arrangement situation of the photography field 44 in image sensors, and the photography inhibiting-signal light-receiving field 45.

[Drawing 16] Drawing showing the example of a deformation configuration of the camera section.

### [Description of Notations]

- 1 — Photography inhibiting-signal sending set
- 11 — Pattern generation section
- 12 — LED mechanical component
- 13 — LED
- 2 — Pocket mold TV phone terminal unit
- 3 — Photography prohibition object
- 21 — Main control section

22 — Image codec  
23 — LCD interface section (LCD IF section)  
25 — Camera section  
25a — Image sensors  
25b — Image data-conversion section  
25c — Control signal transducer  
25d — Command directions section  
25e — Image data output control section  
25f, 25g — Image sensors  
25h — Half mirror  
25i, 25j — Wavelength filter  
26 — Camera interface section (camera IF section)  
27 — Demultiplexing section  
28 — PHS circuit interface section (PHS circuit IF section)  
29 — Antenna  
30 — Voice codec  
31 — Microphone  
32 — Microphone interface section (microphone IF section)  
33 — Loudspeaker interface section (loudspeaker IF section)  
34 — Loudspeaker  
35 — Control unit  
36 — Actuation input-control circuit section  
37 — Main bus  
38, 39, 40 — Synchronous bus  
42 43 — Wavelength filter  
44 — Photography field  
45 — Photography inhibiting-signal light-receiving field  
91 — Main control section  
92 — Camera section  
93 — Camera interface section (camera IF section)  
94 — Image memory  
S — Photography inhibiting signal

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[Translation done.]

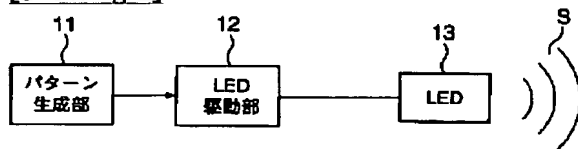
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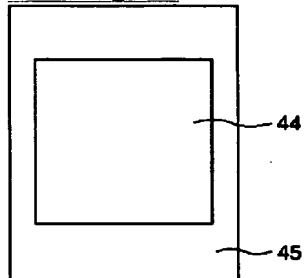
- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.\*\*\*\* shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

## DRAWINGS

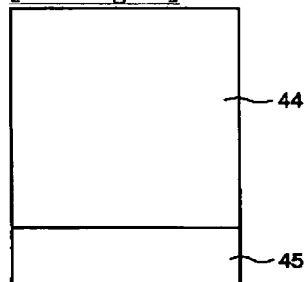
[Drawing 2]



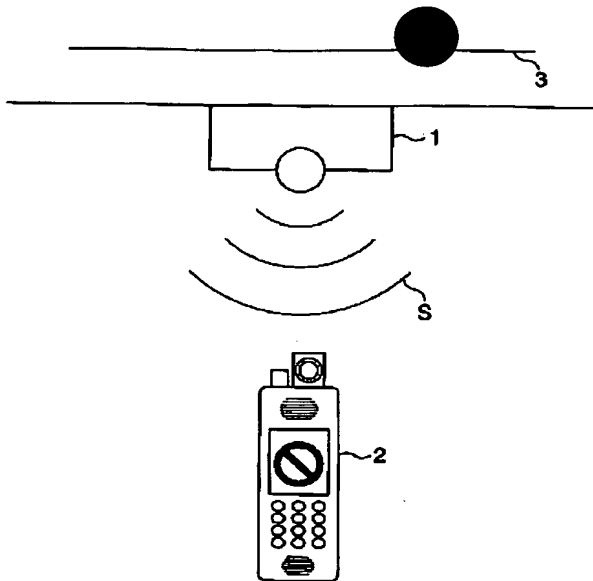
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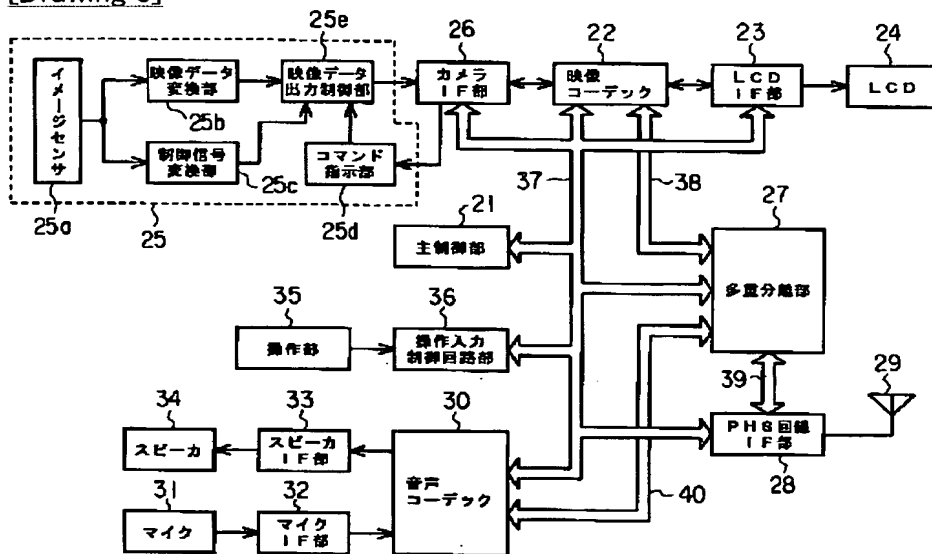
[Drawing 13]



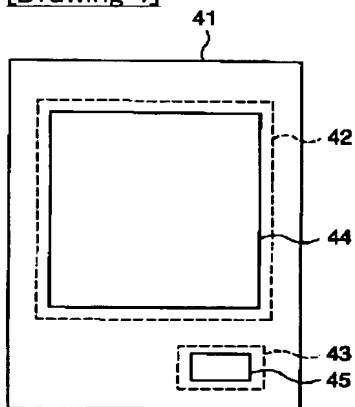
[Drawing 1]



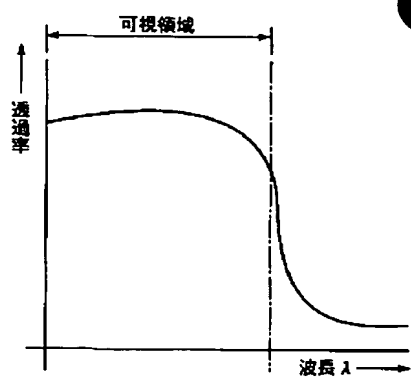
[Drawing 3]



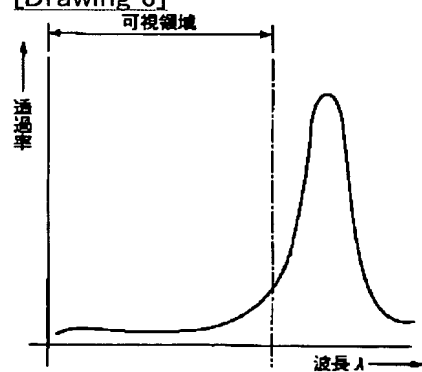
[Drawing 4]



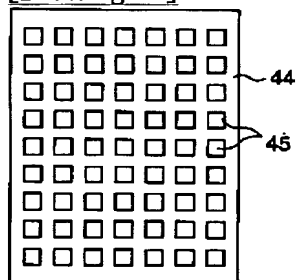
[Drawing 5]



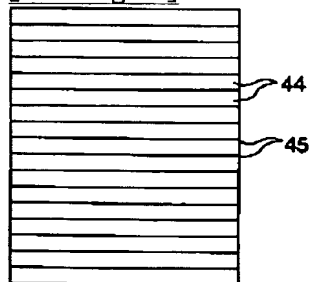
[Drawing 6]



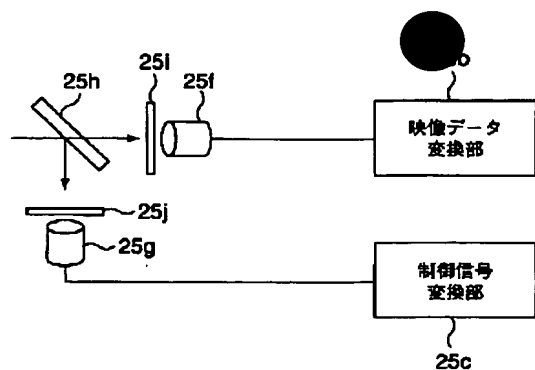
[Drawing 14]



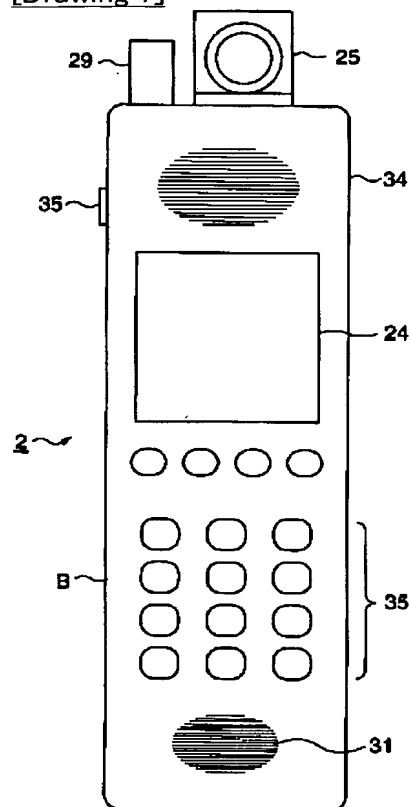
[Drawing 15]



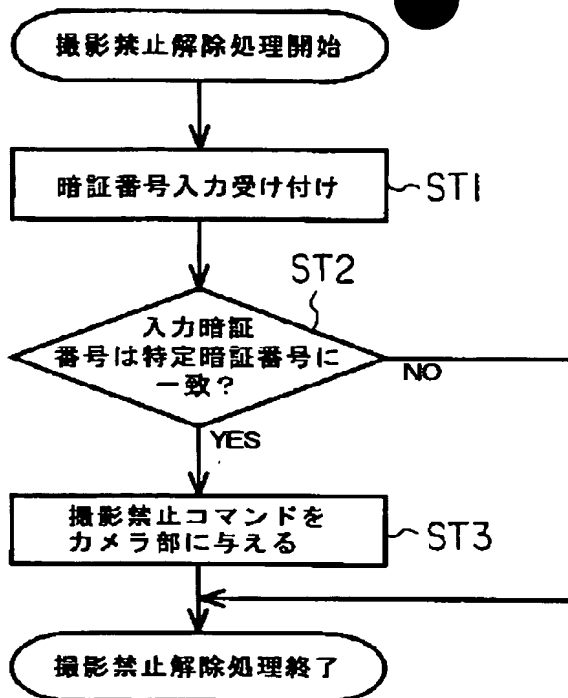
[Drawing 16]



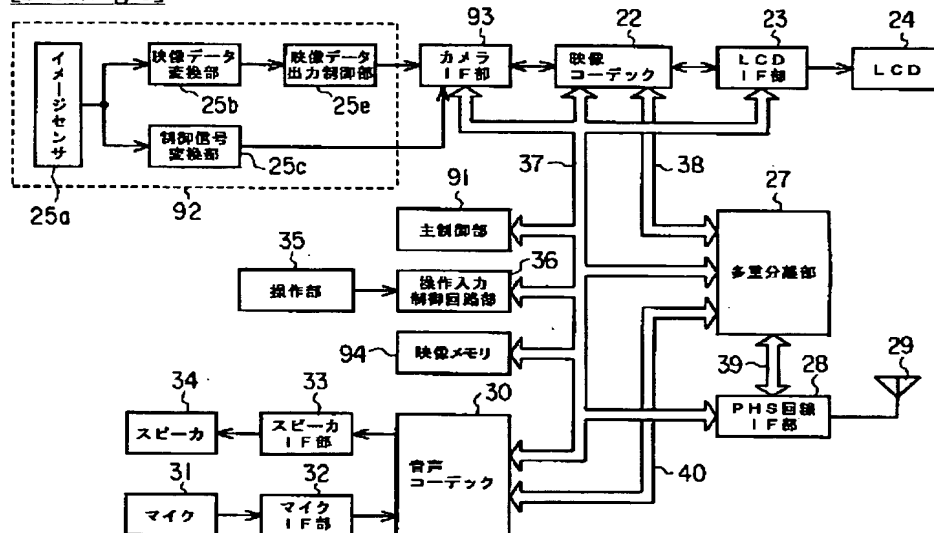
[Drawing 7]



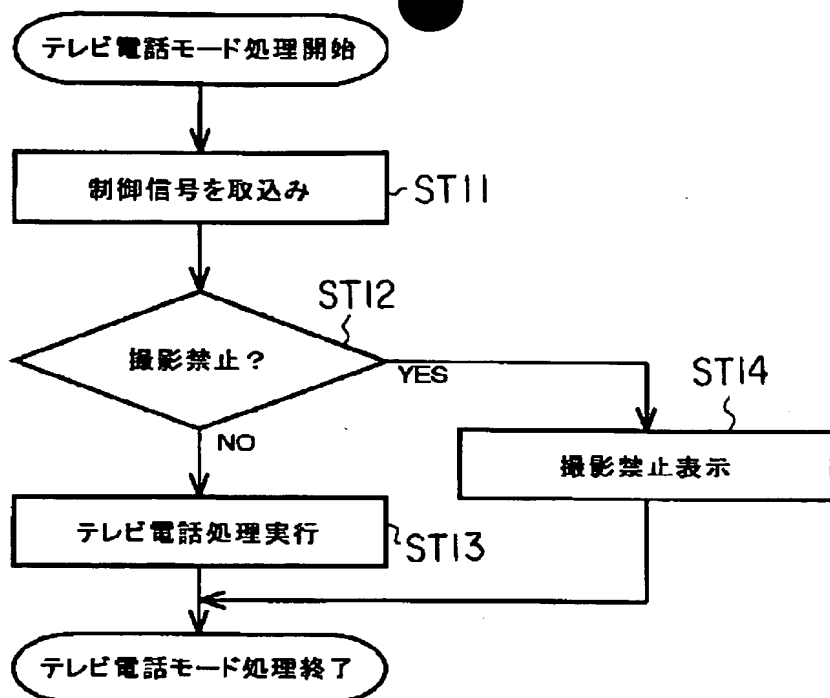
[Drawing 8]



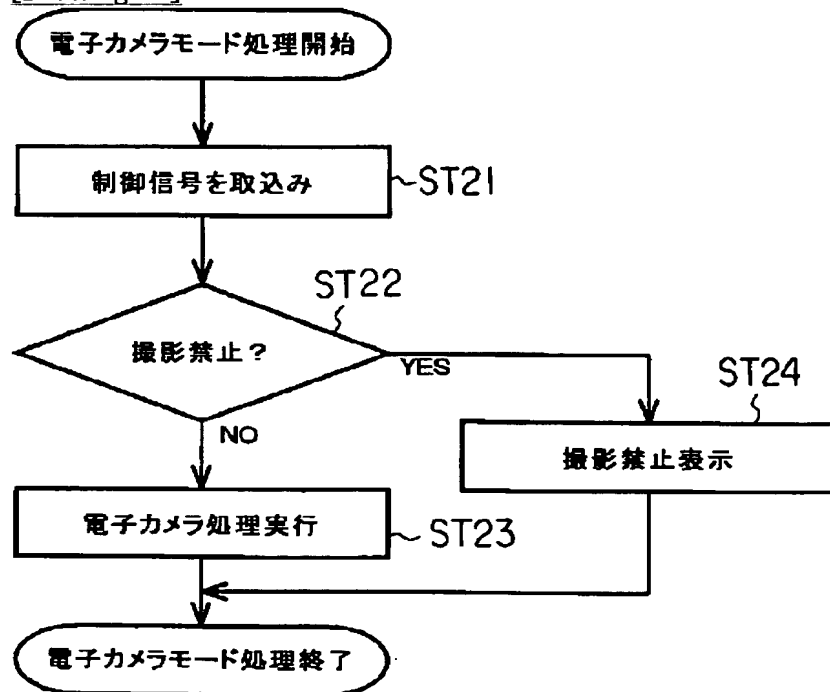
[Drawing 9]



[Drawing 10]



[Drawing 11]



[Translation done.]



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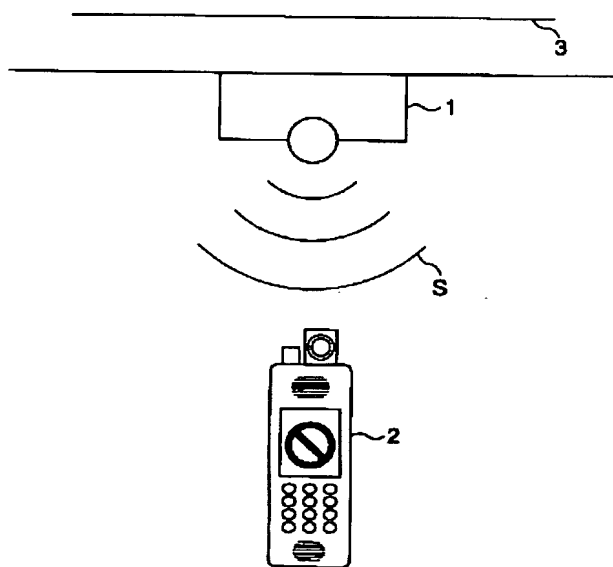
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(54) 【発明の名称】 映像取得制限システム、映像取得許可信号送信装置および映像取得制限装置

(57) 【要約】

【課題】 例えば音声通話などのような映像取得以外の機能を制限することなしに、所定の対象物に関する映像取得を確実に制限する。

【解決手段】 ある撮影禁止対象物3の撮影を禁止したい場合に、撮影禁止信号送信装置1によってその近辺に、撮影禁止信号Sを送信しておく。撮影機能を有した機器、すなわち例えば携帯型テレビ電話端末装置2では、カメラ部にて撮影禁止信号Sの到来監視を行い、撮影禁止信号Sが到来しているときにはカメラ部が映像データの出力を停止する。



## 【特許請求の範囲】

【請求項 1】 所定の映像取得動作の禁止または許可を示す禁止信号および許可信号の少なくともいずれか一方を無線送信する映像取得許可信号送信装置と、前記映像取得動作を行う所定の機器に設けられる映像取得制限装置とからなり、かつ前記映像取得制限装置は、前記映像取得許可信号送信装置から送信された前記禁止信号および前記許可信号を受信する許可信号受信手段と、前記映像取得許可信号送信装置が前記禁止信号の送信を行う場合には前記許可信号受信手段により前記禁止信号が受信されているときに、また前記映像取得許可信号送信装置が前記許可信号のみの送信を行う場合には前記許可信号受信手段により前記許可信号が受信されていないときに、前記機器が前記映像取得動作を行うことを禁止する映像取得禁止手段とを具備することを特徴とする映像取得制限システム。

【請求項 2】 所定の映像取得動作の禁止を示す禁止信号を無線送信する映像取得禁止信号送信装置と、前記映像取得動作を行う所定の機器に設けられる映像取得制限装置とからなり、かつ前記映像取得制限装置は、前記映像取得禁止信号送信装置から送信された前記禁止信号を受信する禁止信号受信手段と、前記禁止信号受信手段により前記禁止信号が受信されているときに、前記機器が前記映像取得動作を行うことを禁止する映像取得禁止手段とを具備することを特徴とする映像取得制限システム。

【請求項 3】 所定の場所での所定の映像取得動作を制限する映像取得制御システムを構築するために用いられるものであって、前記映像取得動作の禁止または許可を示す禁止信号および許可信号に少なくともいずれか一方を無線送信する映像取得許可信号送信装置。

【請求項 4】 前記禁止信号および前記許可信号としては、所定の波長の光信号を用いることを特徴とする請求項 3 に記載の映像取得許可信号送信装置。

【請求項 5】 前記禁止信号および前記許可信号としての光信号は、所定の発光パターンを有したものとすることを特徴とする請求項 4 に記載の映像取得許可信号送信装置。

【請求項 6】 前記禁止信号および前記許可信号としての光信号は、不可視な波長を有するものであることを特徴とする請求項 4 に記載の映像取得許可信号送信装置。

【請求項 7】 前記禁止信号および前記許可信号としては、所定の波長の電波信号を用いることを特徴とする請求項 3 に記載の映像取得許可信号送信装置。

【請求項 8】 前記禁止信号および前記許可信号としての電波信号は、所定のパターンの電気信号を変調したも

のであること特徴とする請求項 7 に記載の映像取得許可信号送信装置。

【請求項 9】 所定の場所での所定の映像取得動作を制限する映像取得制御システムを、前記映像取得動作の禁止または許可を示す禁止信号および許可信号に少なくともいずれか一方を無線送信する映像取得許可信号送信装置とともに構築するために、前記映像取得動作を行う所定の機器に設けられて用いられるものであって、前記映像取得許可信号送信装置から送信された前記禁止信号および前記許可信号を受信する許可信号受信手段と、

前記映像取得許可信号送信装置が前記禁止信号の送信を行う場合には前記許可信号受信手段により前記禁止信号が受信されているときに、また前記映像取得許可信号送信装置が前記許可信号のみの送信を行う場合には前記許可信号受信手段により前記許可信号が受信されていないときに、前記機器が前記映像取得動作を行うことを禁止する映像取得禁止手段とを具備したことを特徴とする映像取得制限装置。

【請求項 10】 所定の場所での所定の映像取得動作を制限する映像取得制御システムを、前記映像取得動作の禁止を示す禁止信号を無線送信する映像取得禁止信号送信装置とともに構築するために、前記映像取得動作を行う所定の機器に設けられて用いられるものであって、前記映像取得禁止信号送信装置から送信された前記禁止信号を受信する禁止信号受信手段と、前記禁止信号受信手段により前記禁止信号が受信されているときに、前記機器が前記映像取得動作を行うことを禁止する映像取得禁止手段とを具備したことを特徴とする映像取得制限装置。

【請求項 11】 前記映像取得禁止手段は、前記禁止信号が前記許可信号受信手段により受信されている状態から受信されない状態に変化した場合には、その後前記禁止信号が前記許可信号受信手段により受信されない状態が所定時間に渡り継続したことに応じて前記機器が前記映像取得動作を行うことを許可することを特徴とする請求項 9 または請求項 10 に記載の映像取得制限装置。

【請求項 12】 前記機器は、前記映像取得動作として映像情報を生成して出力する動作を行う撮影装置であることを特徴とする請求項 9 または請求項 10 に記載の映像取得制限装置。

【請求項 13】 前記機器は、前記映像取得動作として所定の撮像装置で生成された映像情報を他の通信端末へと送信する動作を行う通信端末装置であることを特徴とする請求項 9 または請求項 10 に記載の映像取得制限装置。

【請求項 14】 前記機器は、前記映像取得動作として所定の撮像装置で生成された映像情報を所定の記憶媒体に記憶させる動作を行う映像蓄積装置であることを特徴とする請求項 9 または請求項 10 に記載の映像取得制限

装置。

【請求項 15】 前記禁止信号および前記許可信号は所定の波長の光信号であり、かつ前記撮像装置が映像情報を生成するために有する撮像素子を構成する多数の光電素子の一部を前記所定の波長の光信号を受信するために用いることを特徴とする請求項 12 乃至請求項 14 のいずれかに記載の映像取得制限装置。

【請求項 16】 前記映像取得禁止手段は、所定の制限解除指示がなされたならば、前記許可信号受信手段による前記禁止信号や前記許可信号の受信状況に拘わらずに前記機器が前記映像取得動作を行うことを許可することを特徴とする請求項 9 または請求項 10 に記載の映像取得制限装置。

#### 【発明の詳細な説明】

##### 【0001】

【発明の属する技術分野】本発明は、撮影機能を有する機器などによる映像取得動作を制限するための映像取得制限システムや、この映像取得制限システムを構築するための映像取得許可信号送信装置および映像取得制限装

##### 【0002】

【従来の技術】近年、モバイルコンピューティングの発展にともない、携帯型通信端末装置に映像撮影機能（カメラ機能）を統合し、ポケットや鞆に収まる程度の小さな筐体に、PHS（Personal Handy Phone）やPDC（Personal Digital Cellular）といった移動通信ネットワークを介して静止映像や動映像を、場所を選ばずに自由に撮影し、伝送できるようにした携帯型通信端末装置が実現されている。

【0003】これらの装置においては一般に、カメラ機能の動作／非動作状態の切替は、カメラ機能部に対する電源投入／切断や、カメラ機能部の通信端末本体部への通信路の接続／切断を、使用者が手動で行うことにより制御される。

【0004】ところで、銀行や劇場・映画館などでは、警備上や権利上の問題から撮影禁止とされている場所や領域があるが、カメラ装置の小型化が進み、容易に隠し撮りすることができるようになってきている。また、上記のような携帯電話と組み合わせることにより、撮影した映像を短時間で遠隔地に送信することが可能となり、更に警備上、秘密とすべき情報が漏洩したり、権利保持者の許可を得ない映像情報が流通したりするおそれがある。

【0005】このような不具合を回避するために、ある領域で携帯電話端末での通話を制限するため、その領域を電波を通さない性質を持つ材質の壁や構造物で覆ったり、基地局から携帯端末への接続拒否の信号を模した信号を発信して発呼・着呼を制限する技術がある。

【0006】しかしながらこのような方法によると、禁止する必要がない音声通話まで行うことができなくな

り、使用者への過剰な不利益となる。

##### 【0007】

【発明が解決しようとする課題】以上のように従来は、カメラなどを用いた映像取得を確実に制限することは困難であり、映像取得を行われることが不適切である場所での映像取得が容易に行われてしまうという不具合があった。

【0008】本発明はこのような事情を考慮してなされたものであり、その目的とするところは、例えば音声通話などのような映像取得以外の機能を制限することなしに、所定の対象物に関する映像取得を確実に制限できる映像取得制限システムや、この映像取得制限システムを構築するための映像取得許可信号送信装置および映像取得制限装置を提供することにある。

##### 【0009】

【課題を解決するための手段】以上の目的を達成するために本発明は、所定の映像取得動作（例えば映像情報の生成・出力動作、送信動作、あるいは蓄積動作など）の禁止または許可を示す禁止信号および許可信号の少なくともいずれか一方を、例えば所定の波長で所定のパターンの光信号（不可視光信号）や所定の波長で所定のパターンの電波信号などにより無線送信する例えば撮影禁止信号送信装置などの映像取得許可信号送信装置と、前記映像取得動作を行う所定の機器（例えば撮影装置、通信端末装置、あるいは映像蓄積装置など）に設けられる映像取得制限装置とから映像取得制限システムを構成し、かつ前記映像取得制限装置には、前記映像取得許可信号送信装置から送信された前記禁止信号および前記許可信号を受信する、例えばイメージセンサおよび制御信号変換部からなる許可信号受信手段と、前記映像取得許可信号送信装置が前記禁止信号の送信を行う場合には前記許可信号受信手段により前記禁止信号が受信されているときに、また前記映像取得許可信号送信装置が前記許可信号のみの送信を行う場合には前記許可信号受信手段により前記許可信号が受信されていないときに、前記機器が前記映像取得動作を行うことを禁止する、例えば映像データ出力制御部や主制御部などの映像取得禁止手段とを備えた。

【0010】また本発明は、所定の映像取得動作（例えば映像情報の生成・出力動作、送信動作、あるいは蓄積動作など）の禁止を示す禁止信号を、例えば所定の波長で所定のパターンの光信号（不可視光信号）や所定の波長で所定のパターンの電波信号などにより無線送信する例えば撮影禁止信号送信装置などの映像取得禁止信号送信装置と、前記映像取得動作を行う所定の機器（例えば撮影装置、通信端末装置、あるいは映像蓄積装置など）に設けられる映像取得制限装置とから映像取得制限システムを構成し、かつ前記映像取得制限装置には、前記映像取得禁止信号送信装置から送信された前記禁止信号を受信する、例えばイメージセンサおよび制御信号変換部

からなる禁止信号受信手段と、この禁止信号受信手段により前記禁止信号が受信されているときに、前記機器が前記映像取得動作を行うことを禁止する、例えば映像データ出力制御部や主制御部などの映像取得禁止手段とを備えた。

【0011】これらの手段を講じたことにより、映像取得許可信号送信装置あるいは映像取得禁止信号送信装置と映像取得制限装置の許可信号受信手段あるいは禁止信号受信装置とでの信号授受によって映像取得の許可が映像取得制限装置に通知され、映像取得が禁止されている場合には、映像情報の生成・出力動作、送信動作、あるいは蓄積動作といった映像取得動作の実行が禁止される。

【0012】また本発明は、前記映像取得禁止手段を、前記禁止信号が前記許可信号受信手段により受信されている状態から受信されない状態に変化した場合には、その後前記禁止信号が前記許可信号受信手段により受信されない状態が所定時間に渡り継続したことに応じて前記機器が前記映像取得動作を行うことを許可するようにした。

【0013】このような手段を講じたことにより、禁止信号の瞬断では映像取得が許可されたとは判定されず、禁止信号が到来しない状態になったことが確実になったのちに映像取得動作を行うことが許可される。

【0014】また本発明は、前記禁止信号および前記許可信号を所定の波長の光信号とし、かつ前記撮像装置が映像情報を生成するために有する例えばイメージセンサなどの撮像素子を構成する多数の光電素子の一部を前記所定の波長の光信号を受信するために用いるようにした。

【0015】このような手段を講じたことにより、単一の撮像素子により映像信号の生成と、前記禁止信号および前記許可信号の受信とが行われる。

【0016】また本発明は、前記映像取得禁止手段を、所定の制限解除指示がなされたならば、前記許可信号受信手段による前記禁止信号や前記許可信号の受信状況に拘わらずに前記機器が前記映像取得動作を行うことを許可するものとした。

【0017】このような手段を講じたことにより、映像取得動作が禁止されている状況であっても、制限解除指示がなされたならば映像取得動作が行われる。

【0018】

【発明の実施の形態】（第1の実施形態）以下、図面を参照しながら本発明の映像取得制限システムの第1実施形態について説明する。

【0019】図1は本実施形態に係る映像取得制限システムの構成を示す図である。

【0020】この図に示すように本実施形態の映像取得制限システムは、本発明の映像取得許可信号送信装置を適用してなる撮影禁止信号送信装置1および本発明の映

像取得制限装置を適用してなるカメラ部を有した携帯型テレビ電話端末装置2とからなる。

【0021】撮影禁止信号送信装置1は、例えば映画館のスクリーンなどのような撮影禁止対象物3の近傍の天井などに配置され、所定の発光パターンを持つ赤外光信号よりなる撮影禁止信号Sを送信する。

【0022】携帯型テレビ電話端末装置2は、映像を撮像することが可能で、撮影した映像をPHS通信網を介して遠隔地へと送信する機能を、音声通話を行う機能のほかにも有している。

【0023】図2は図1中の撮影禁止信号送信装置1の具体的な構成例を示すブロック図である。

【0024】この図に示すように本実施形態の撮影禁止信号送信装置1は、パターン生成部11、LED駆動部12およびLED（発光ダイオード）13を有している。他に、図2では図示を省略しているが、前述の各部を動作させるための電力を供給するための電源部を持つ。

【0025】パターン生成部11は、撮影禁止信号S用に定められた発光パターンに応じたON/OFFパターンを持ったパターン列を電氣的に発生し、LED駆動部12に与える。

【0026】LED駆動部12は、パターン生成部11から与えられるパターン列に従って、LED13を点滅させる。

【0027】LED13は、LED駆動部12による駆動に従って、赤外光を点滅発光することで、撮影禁止信号Sを送信する。

【0028】図3は本実施形態に係る携帯型テレビ電話端末装置2の要部構成を示すブロック図である。

【0029】この図に示すように、本実施形態に係る携帯型テレビ電話端末装置2は、主制御部21、映像コーデック22、LCDインタフェース部（LCD I/F部）23、LCD（液晶表示器）24、カメラ部25、カメラインタフェース部（カメラI/F部）26、多重分離部27、PHS回線インタフェース部（PHS回線I/F部）28、アンテナ29、音声コーデック30、マイク31、マイクインタフェース部（マイクI/F部）32、スピーカインタフェース部（スピーカI/F部）33、スピーカ34、操作部35および操作入力制御回路部36を有している。

【0030】このうち、主制御部21、映像コーデック22、LCDインタフェース部23、カメラインタフェース部26、多重分離部27、PHS回線インタフェース部28、音声コーデック30および操作入力制御回路部36は、主バス37を介して互いに接続されている。また、多重分離部27は、映像コーデック22、PHS回線インタフェース部28および音声コーデック30と、同期バス38、39、40を介してそれぞれ接続されている。

【0031】主制御部21はCPU、ROMおよびRAM等を有してなるものであり、本携帯型テレビ電話端末装置2の各部を統括制御することで携帯型テレビ電話端末としての動作を実現するものである。この主制御部21は、各種の機能を実現するための処理手段をソフトウェア処理により実現する。

【0032】映像コーデック22は、符号化映像データのデコードを行い、再生した映像データをLCDインタフェース部23に与える。また映像コーデック22は、カメラ部25からカメラインタフェース部26を介して与えられる映像データをエンコードしてMPEG4方式の符号化映像データを得る。

【0033】LCDインタフェース部23は、与えられた映像データをLCD24で処理可能な信号形式に変換した上でLCD24に与える。LCD24は、MPEG4等の動映像を表示するのに十分な表示能力（解像度など）を有したカラーもしくはモノクロの表示器であり、LCDインタフェース部23から与えられ映像データに基づいて映像を表示する。

【0034】カメラ部25は、CCDカメラなどを用いたものであり、映像データを生成し、カメラインタフェース部26に与える。カメラインタフェース部26は、カメラ部25から与えられる映像データを映像コーデック22で処理可能な信号形式に変換した上で映像コーデック22に与える。カメラインタフェース部26はまた、主制御部21から撮影禁止解除コマンドが与えられた場合に、その撮影禁止解除コマンドをカメラ部25に転送する。

【0035】多重分離部27は、映像コーデック22から同期バス38を介して与えられる符号化映像データ、音声コーデック30から同期バス40を介して与えられる符号化音声データおよび主制御部21から主バス37を介して与えられる他データを所定の多重化方式（例えば、ITU-T勧告H.221等）で多重化し、これにより得られる伝送データをPHS回線インタフェース部28へと同期バス39を介して与える。また、多重分離部27はPHS回線インタフェース部28から同期バス39を介して与えられる伝送データから符号化映像データ、符号化音声データおよび他データをそれぞれ分離し、これらの各データを映像コーデック22、音声コーデック30および主制御部21のそれぞれへと同期バス38、40および主バス37を介して与える。

【0036】PHS回線インタフェース部28は、アンテナ29を介して無線によりPHS網に接続可能で、PHS網を介しての通信を行うための各種の処理を行うとともに、PHS網上に設定された通信パスを介してデータの送受信を行う。

【0037】音声コーデック30は、マイク31から出力され、マイクインタフェース部32を介して与えられる音声信号をデジタル化するとともに所定の音声符号

化方式（例えばITU-T勧告G.724等）でエンコードして符号化音声データを得る。音声コーデック30は、この符号化音声データを、同期バス40を介して多重分離部27へ与える。また、音声コーデック30は、多重分離部27から与えられる符号化音声データをデコードするとともにアナログ化して音声信号を得て、この音声信号をスピーカインタフェース部33に与える。

【0038】マイク31は、周囲の音声を音声信号に変換してマイクインタフェース部32に与える。マイクインタフェース部32は、マイク31から与えられた音声信号を音声コーデック30で処理可能な信号形式に変換した上で音声コーデック30に与える。

【0039】スピーカインタフェース部33は、音声コーデック30から与えられる音声信号をスピーカ34で処理可能な信号形式に変換した上でスピーカ34に与える。スピーカ34は、スピーカインタフェース部33から与えられる音声信号を音声として出力する。

【0040】操作部35は、使用者による主制御部21に対する各種の指示入力を受け付けるためのものであり、各種の機能の指定を受け付ける操作ボタン群、電話番号や各種の数値の指定を受け付けるためのダイヤルボタン群、あるいは本装置の動作のON/OFFの指定を受け付けるための電源スイッチなどを有している。操作入力制御回路部36は、操作部35での指示操作の内容を認識し、それを主制御部21に通知する。

【0041】なお、図示は省略しているが、本装置の構成要素として、上述した各部を動作させるための電力を供給する電源部が存在する。

【0042】ところでカメラ部25はさらに、イメージセンサ25a、映像データ変換部25b、制御信号変換部25c、コマンド指示部25dおよび映像データ出力制御部25eを有している。

【0043】イメージセンサ25aは、CCDエリアセンサなどを用いたものであり、図示しない光学系によって結像された光像に応じた電気信号を生成する。このイメージセンサ25aで生成された電気信号は、映像データ変換部25bおよび制御信号変換部25cにそれぞれ与えられる。

【0044】なお、イメージセンサ25aの撮影面には図4に示すように、その有効領域のうちの互いに異なる2つの領域を覆うように、互いに異なる光透過特性を有した波長フィルタ42、43が設けられている。

【0045】波長フィルタ42は、図5に示すような光透過特性を持つ。すなわち波長フィルタ42は、通常の映像として有効な可視光のみを透過し、受光素子に結像させる。また波長フィルタ43は、図6に示すような光透過特性を持つ。すなわち波長フィルタ43は、非可視の赤外光のみを透過し、受光素子に結像させる。波長フィルタ42における透過率が最大となる波長は、撮影禁止信号送信装置1が送信する撮影禁止信号Sの波長に一

致することが望ましい。

【0046】かくして、波長フィルタ42により覆われた領域が撮影領域44となり、また波長フィルタ43により覆われた領域が撮影禁止信号受光領域45となっている。

【0047】映像データ変換部25bは、イメージセンサ25aから与えられる電気信号から撮影領域44からの出力分を抽出し、所定形態の映像データに変換する。そして映像データ変換部25bは、この映像データを映像データ出力制御部25eへと与える。

【0048】制御信号変換部25cは、イメージセンサ25aから与えられる電気信号から撮影禁止信号受光領域45からの出力分を抽出し、撮影禁止信号Sの到来の有無に応じた制御信号に変換する。そして制御信号変換部25cは、この制御信号を映像データ出力制御部25eへと与える。

【0049】コマンド指示部25dは、主制御部21からカメラインタフェース部26を介して撮影禁止解除コマンドが与えられた場合に、撮影禁止解除信号を映像データ出力制御部25eに与える。

【0050】映像データ出力制御部25eは、制御信号変換部25cから与えられる制御信号の状態と、コマンド指示部25dからの撮影禁止解除信号の供給の有無とに基づき、映像データ変換部25bから与えられる映像データのカメラインタフェース部26への出力をON/OFF制御する。

【0051】なおこのカメラ部25の各部は、例えば1チップの集積回路として集積され、独立した撮影装置としても機能するものを適用しても良いし、既存のCCDセンサなどに波長フィルタ42、43を付加したイメージセンサ25aを用い、他の各部は付加回路として実現するようにしても良い。

【0052】図7は本実施形態の携帯型テレビ電話端末装置2の外観を示す図である。なお、図3と同一の部分には同一の番号を付している。

【0053】この図に示すように携帯型テレビ電話端末装置2は、箱型の筐体Bを有し、この筐体B内に前述した各構成要素が装着されている。

【0054】主制御部21、映像コーデック22、LCDインタフェース部23、カメラインタフェース部26、多重分離部27、PHS回線インタフェース部28、音声コーデック30、マイクインタフェース部32、スピーカインタフェース部33および操作入力制御回路部36は、1枚の主基板上に全て実装された上で筐体Bの内部に収容されている。

【0055】LCD24は、筐体の一面からその表示面を外部に露出した状態で設けられている。

【0056】操作部35のボタン等の多くは、LCD24が設けられている面（以下、筐体前面と称する）にまとめて設けられている。各ボタン間は、片手で筐体を保

持し、もう一方の手指で操作したときに確実に1つずつ押下できるよう適切な間隔を取って配置されている。

【0057】マイク31およびスピーカ34は、筐体前面にLCD24および操作部35を挟むように上下に配置されている。このマイク31とスピーカ34との間隔は、平均的な人間の耳と口の間隔を考慮して設定され、通話時には使用者の耳と口にそれぞれ同時に近接させることが可能となっている。すなわち、本携帯型テレビ電話端末装置2は、筐体Bそのものが通常の電話機におけるハンドセットの機能を有したものとなっている。

【0058】次に、以上のように構成された映像取得制限システムの動作につき説明する。

【0059】まず、劇場管理者などのような撮影禁止対象物3の管理者は、撮影禁止対象物3の近傍に撮影禁止信号送信装置1を配置し、動作状態としておく。

【0060】そうすると撮影禁止信号送信装置1は、撮影禁止対象物3の周辺に撮影禁止信号Sを送信する。なおこの撮影禁止信号Sは非可視な赤外光であるから、観客などが撮影禁止対象物3を目視することの妨げになることはない。

【0061】さて携帯型テレビ電話端末装置2は、主な機能として音声通話のみを可能とする通常のPHS電話機能を持つが、これについては通常のPHS電話端末と同様であり、本発明の要旨ではないのでここでは省略する。

【0062】そしてここでは、カメラ部25による映像撮影が行われるテレビ電話モードが設定された場合における動作について説明する。

【0063】本携帯型テレビ電話端末装置2から発呼要求がなされるか、あるいは他端末からの着呼が発生したとき、主制御部21は呼の設定処理を周知の一般的な手順で実行する。この時、相手先ビジーや回線不良などの原因で呼が確立できなかった場合は、スピーカ34を鳴動して使用者にその旨を通知した上で、処理を終了する。

【0064】正常に呼が確立すると、本携帯型テレビ電話端末装置2と相手側端末は音声通話モードとなり、音声による通話が可能となる。

【0065】続いて、相手側端末との間で、映像通信の能力確認のネゴシエーションを行う。相手側端末より応答がない場合、あるいは拒否の応答があった場合はそこで処理は終了し、音声のみの通信が続行される。

【0066】相手側端末より映像通信を許可する旨の応答が返され、相互で映像通信が可能であることが確認されると、映像コーデック22、カメラ部25およびカメラインタフェース部26が有効となって映像通信が可能となる。

【0067】ここでカメラ部25では、イメージセンサ25aで生成された電気信号から映像データ変換部25bによって映像データが生成されるが、この映像データ

の出力は映像データ出力制御部 25 e によって次のように制御される。

【0068】もし、本携帯型テレビ電話端末装置 2 が撮影禁止信号送信装置 1 により送信された撮影禁止信号 S の到来範囲に位置しているならば、この撮影禁止信号 S がイメージセンサ 25 a の撮影禁止信号受光領域 45 で受光されることになる。そこで制御信号変換部 25 c では、撮影禁止信号受光領域 45 からの出力分が、撮影禁止信号 S としての所定のパターンを有しているか否かの監視を行い、その監視結果を示す制御信号を出力している。

【0069】撮影禁止信号 S が本携帯型テレビ電話端末装置 2 に到来しておらず、制御信号が撮影禁止信号 S が到来していないことを示しているのであれば、映像データ出力制御部 25 e は、映像データ変換部 25 b から与えられる映像データを、カメラインタフェース部 26 へと与える。

【0070】そうすると映像データは、映像コーデック 22 で処理可能な信号形式へとカメラインタフェース部 26 により変換されるとともに、映像コーデック 22 により符号化された上で、多重分離部 27 へと与えられる。

【0071】かくしてこの状態では、映像データが、音声コーデック 30 から送られた音声情報と多重分離部 27 で多重化され、PHS 回線インタフェース部 28 により PHS 網を介して相手側端末へと送信される。

【0072】しかしながら、撮影禁止信号 S が本携帯型テレビ電話端末装置 2 に到来しており、制御信号が撮影禁止信号 S が到来していることを示しているのであれば、映像データ出力制御部 25 e は、映像データ変換部 25 b から与えられる映像データを出力しない。

【0073】かくしてこの状態では、多重分離部 27 へは映像データが与えられず、映像データの送信は行われない。従って、映像の撮影および映像の送信は行われない。

【0074】なお、このような状態にあるときには、そのことを主制御部 21 が認識して、撮影が禁止されている旨を使用者に通知するための表示を LCD 24 に行うようにすると良い。

【0075】さて、例えば映画の上映が終了したなどの事情により撮影禁止信号 S の送信が停止されるか、あるいは使用者が移動して本携帯型テレビ電話端末装置 2 が撮影禁止信号 S の到来範囲から外れるなどによって、撮影禁止信号 S が制御信号変換部 25 c で検出されなくなれば、映像データ出力制御部 25 e が映像データの出力を開始し、撮影および映像データの送信が行えるようになる。

【0076】なおこのとき、例えばカメラ部 25 の前を物体が横切るなどの事情により、撮影禁止信号 S の到来が瞬断する場合も考えられるので、このような場合に撮

影が開始されてしまうのを防止するために、撮影禁止信号 S が検出できない状態が一定時間に渡って継続したことをもって、映像データ出力のブロック状態を解除することが望ましい。

【0077】一方、カメラ部 25 が映像データを出力しない状態において、使用者が操作部 35 での所定の指示操作によって撮影禁止解除を指定すると、主制御部 21 は図 8 に示すような撮影禁止解除処理を実行する。

【0078】この撮影禁止解除処理において主制御部 21 はまず、暗証番号の入力を受け付ける（ステップ ST 1）。

【0079】続いて主制御部 21 は、入力された暗証番号が、撮影禁止を解除するために予め決められた特定の暗証番号と一致するか否かを判断し（ステップ ST 2）、一致する場合にのみ撮影禁止コマンドをカメラインタフェース部 26 を介してカメラ部 25 へと与える（ステップ ST 3）。

【0080】カメラ部 25 では、カメラインタフェース部 26 を介して与えられる撮影禁止コマンドがコマンド指示部 25 d へと与えられる。そうするとコマンド指示部 25 d は、撮影禁止解除信号を映像データ出力制御部 25 e へと与える。

【0081】映像データ出力制御部 25 e は、撮影禁止解除信号が与えられたならば、制御信号の状態に拘わらずに、映像データを出力する。

【0082】なお、暗証番号を、撮影禁止信号 S のパターンに応じて変化させるようにすれば、場所毎で撮影禁止を解除するための暗証番号を変えることができ、より便利となる。

【0083】かくして本実施形態によれば、撮影禁止信号送信装置 1 から送信される撮影禁止信号 S が到達する範囲では、カメラ部 25 が映像信号の出力を行わず、撮影が行われない。これにより、撮影禁止対象物 3 が撮影されてしまうことを確実に防止することができる。

【0084】しかも本実施形態によれば、撮影動作のみを禁止し、通信は可能としているので、音声通話は制限されない。

【0085】また本実施形態によれば、撮影禁止信号 S に赤外光を用い、撮影のためのイメージセンサ 25 a で撮影禁止信号 S の受光も行うようにしているので、撮影禁止信号 S のみを遮蔽することは困難であり、不正に撮影が行われることを防止できる。

【0086】また撮影禁止信号 S に赤外光を用いていることにより、撮影禁止信号送信装置 1 の配置の仕方によって撮影を禁止する条件を調整することができる。すなわち例えば、撮影禁止対象物 3 の側からのみ撮影禁止信号 S を送信するようにしておけば、カメラ部 25 を撮影禁止対象物 3 の方に向けた場合にのみ撮影を禁止することができる。従って、撮影禁止対象物 3 に対面している使用者の顔を撮影する場合には撮影の制限を受けないこ

とになり、テレビ電話としての機能を制限しないで済む。

【0087】また本実施形態によれば、撮影禁止信号Sが到達する場合でも、特定の暗証番号を入力することによって撮影を可能としているので、例えば係員や報道関係者などのような特別な許可を受けた者にのみ撮影を許可するような場合に有効である。

【0088】（第2の実施形態）続いて、図面を参照しながら本発明の映像取得制限システムの第2実施形態について説明する。

【0089】本実施形態に係る映像取得制限システムの全体構成および撮影禁止信号送信装置1の構成は前記第1実施形態と同様である。

【0090】そして本実施形態の映像取得制限システムが前記第1実施形態と異なるのは、携帯型テレビ電話端末装置2の構成である。

【0091】図9は本実施形態における携帯型テレビ電話端末装置2の具体的な構成例を示すブロック図である。なお、図3と同一部分には同一符号を付し、その詳細な説明は省略する。

【0092】この図に示すように、本実施形態に係る携帯型テレビ電話端末装置2は、映像コーデック22、LCDインタフェース部（LCD I F部）23、LCD（液晶表示器）24、多重分離部27、PHS回線インタフェース部（PHS回線 I F部）28、アンテナ29、音声コーデック30、マイク31、マイクインタフェース部（マイク I F部）32、スピーカインタフェース部（スピーカ I F部）33、スピーカ34、操作部35、操作入力制御回路部36、主制御部91、カメラ部92、カメラインタフェース部（カメラ I F部）93および映像メモリ94を有する。

【0093】このうち、映像コーデック22、LCDインタフェース部23、多重分離部27、PHS回線インタフェース部28、音声コーデック30、操作入力制御回路部36、主制御部91、カメラインタフェース部93および映像メモリ94は、主バス37を介して互いに接続されている。また、多重分離部27は、映像コーデック22、PHS回線インタフェース部28および音声コーデック30と、同期バス38、39、40を介してそれぞれ接続されている。

【0094】すなわち本実施形態の携帯型テレビ電話端末装置2は、前記第1実施形態の携帯型テレビ電話端末装置2における主制御部21、カメラ部25およびカメラインタフェース部26に代えて、主制御部91、カメラ部92およびカメラインタフェース部93を備えたとともに、新たに映像メモリ94を備えたものとなっている。

【0095】主制御部91はCPU、ROMおよびRAM等を有してなるものであり、本携帯型テレビ電話端末装置2の各部を統括制御することで携帯型テレビ電話端

末としての動作を実現するものである。この主制御部91は、各種の機能を実現するための処理手段をソフトウェア処理により実現する。この主制御部91は、ハード的な構成は前記第1実施形態における主制御部21と同様であるが、ソフトウェア処理により実現される処理手段が異なっており、後述する処理を実行可能となっている。

【0096】カメラ部92は、CCDカメラなどを用いたものであり、映像データを生成し、カメラインタフェース部93に与える。カメラ部92はまた、撮影禁止信号Sの到来監視を行い、撮影禁止信号Sの有無を示す制御信号をカメラインタフェース部93に与える。

【0097】カメラインタフェース部93は、カメラ部92から与えられる映像データを映像コーデック22で処理可能な信号形式に変換した上で映像コーデック22に与える。カメラインタフェース部93はまた、カメラ部92から与えられる制御信号を、主制御部91で認識可能な信号形式に変換した上で、主バス37を介して主制御部91へと与える。

【0098】映像メモリ94は、DRAMやフラッシュメモリなどを用いてなり、映像データを蓄積する。

【0099】ところでカメラ部92はさらに、イメージセンサ25a、映像データ変換部25b、制御信号変換部25cおよび映像データ出力制御部25eを有している。

【0100】すなわちカメラ部92は、前記第1実施形態のカメラ部25におけるコマンド指示部25dを排除するとともに、制御信号変換部25cが生成する制御信号をカメラインタフェース部93へと与えるように変更したものとなっている。

【0101】次に以上のように構成された映像取得制限システムの動作を、携帯型テレビ電話端末装置2の動作を中心に説明する。

【0102】さて本実施形態でも携帯型テレビ電話端末装置2は、主な機能として音声通話のみを可能とする通常のPHS電話機能を持つが、これについては通常のPHS電話端末と同様であり、本発明の要旨ではないのでここでは省略する。

【0103】そしてここでは、カメラ部92による映像撮影が行われる動作モードである、テレビ電話モードおよび電子カメラモードが設定された場合における動作について説明する。

【0104】操作部35での所定の指示操作により、テレビ電話モードでの起動が指定されると、主制御部91は図10に示すようなテレビ電話モード処理を実行する。

【0105】このテレビ電話モード処理において主制御部91はまず、カメラ部92の制御信号変換部25cが出力する制御信号を、カメラインタフェース部93を介して取り込む（ステップST11）。



【0106】続いて主制御部91は、上記の取り込んだ制御信号を認識し、撮影が禁止されているか否かを判断する（ステップST12）。

【0107】そして、撮影が禁止されていないならば主制御部91は、テレビ電話機能を実現するためのテレビ電話処理を周知の手順により実行する（ステップST13）。

【0108】これに対して、撮影が禁止されているならば主制御部91は、撮影が禁止されている旨を使用者に通知するための表示をLCD24にて行い（ステップST14）、テレビ電話処理を実行することなしに当該テレビ電話モード処理を終了する。

【0109】さて、操作部35での所定の指示操作により電子カメラモードでの起動が指定されると、主制御部91は図11に示すような電子カメラモード処理を実行する。

【0110】この電子カメラモード処理において主制御部91はまず、カメラ部92の制御信号変換部25cが出力する制御信号を、カメラインタフェース部93を介して取り込む（ステップST21）。

【0111】続いて主制御部91は、上記の取り込んだ制御信号を認識し、撮影が禁止されているか否かを判断する（ステップST22）。

【0112】そして、撮影が禁止されていないならば主制御部91は、映像データを使用者の指示に応じて映像メモリに蓄積して行く電子カメラ機能を実現するための電子カメラ処理を周知の手順により実行する（ステップST23）。

【0113】これに対して、撮影が禁止されているならば主制御部91は、撮影が禁止されている旨を使用者に通知するための表示をLCD24にて行い（ステップST24）、電子カメラ処理を実行することなしに当該電子カメラモード処理を終了する。

【0114】以上のように本実施形態によれば、カメラ部92での撮影動作自体は撮影が禁止されていても行われるが、映像データの送信や映像メモリ94への蓄積を行わないことで、映像の取得が防がれる。

【0115】かくして本実施形態によっても、前記第1実施形態と同様な効果を得ることが可能である。

【0116】なお、本発明は前記各実施形態に限定されるものではない。例えば前記各実施形態では、イメージセンサ25aは、撮影領域44および撮影禁止信号受光領域45を図4に示すような状態で配置するものとしているが、撮影領域44および撮影禁止信号受光領域45の配置状態は任意であって良い。

【0117】例えば、図12は、有効領域の中央に撮影領域44を配置し、その周囲に撮影禁止信号受光領域45を配置した例である。図13は、有効領域の下側の一部を全幅に渡り撮影禁止信号受光領域45とし、他を全て撮影領域44とした例である。図14は、それぞれ方

形をなす複数の撮影禁止信号受光領域45を撮影領域44の中に離散的に配置した例である。図15は、数ラインにつき1ラインを撮影禁止信号受光領域45とし、他を全て撮影領域44とした例である。

【0118】特に図12、図14、図15の構造であれば、撮影禁止信号受光領域45の配置が知られていたとしても、撮影禁止信号受光領域45のみをマスクすることは困難であるから、撮影禁止信号受光領域45のみをマスクすることで撮影禁止信号Sを受信しないようにする不正を行うことが困難となる。

【0119】また前記各実施形態では、1つのイメージセンサで撮影と撮影禁止信号Sの受光とを行うようにしているが、撮影用と撮影禁止信号Sの受光用とでそれぞれ専用のイメージセンサを独立に設けても良い。

【0120】この場合、例えば図16に示すように、2つのイメージセンサ25f、25gを光軸を90度異ならせて配置し、図示しない光学系より入射した光をハーフミラー25hによってイメージセンサ25f、25gの双方に結像する。そして、イメージセンサ25fとハーフミラー25hとの間およびイメージセンサ25gとハーフミラー25hとの間にそれぞれ、図5に示す特性の波長フィルタ25iおよび図6に示す特性の波長フィルタ25jを配置すればよい。

【0121】またこの場合、ハーフミラー25hを省略し、イメージセンサ25fおよび波長フィルタ25iと、イメージセンサ25gおよび波長フィルタ25jとを同一方向に向けて配置するようにしても良い。

【0122】これらの構成を採れば、イメージセンサ25f、25gとしては既存の安価なものを用いることが可能となる。なおこれらの構成の場合、イメージセンサ25gの代わりにフォトランジスタを用いることも可能である。

【0123】また前記各実施形態では、本発明の映像取得制限装置を携帯型テレビ電話端末装置に適用しているが、デジタルスティルカメラやビデオカメラなどの他の電子的な映像撮影装置にも適用が可能である。あるいは、銀塩フィルムを用いるカメラなどにも、撮影禁止信号Sの受信結果に基づいてシャッタの開閉の禁止制御をすることで適用することができる。特に第1実施形態のカメラ部25を用いるようにすれば、既存のデジタルスティルカメラやビデオカメラの構成をそのまま利用して、撮影制限を行う機能を追加することができる。

【0124】また前記第1実施形態のカメラ部25は、携帯型テレビ電話端末装置に用いるのに限定されるものではなく、独立した撮影装置としても機能し得る。

【0125】また前記各実施形態では、接続する網をPHS回線としているが、無線ネットワークに限らず加入者回線などの有線網に接続する端末においても適用可能である。

【0126】また、受光素子そのものに光波長選択特性

を持つイメージセンサを使用し、波長フィルタを省略することも可能である。

【0127】また前記各実施形態では、映像データの生成および制御信号の生成をカメラ部25、92内で完結して行っていたが、これらの処理をカメラ部の外部、例えばカメラインタフェース部26、93で行うようにしても良い。

【0128】また前記各実施形態では、撮影禁止信号Sの送受信時を撮影禁止としているが、逆に撮影許可信号が送受信される場合にのみ撮影などの映像取得を行えるようにし、それ以外のときは一切映像取得を許可しない方法も考えられる。この場合、撮影許可信号が到達する範囲以外では映像取得はすべて制限され、撮影許可信号が到達する範囲でのみ映像取得が可能となる。

【0129】また前記各実施形態では、撮影禁止信号Sとして赤外光信号を用いているが、他の不可視光や、あるいは電波を用いることも可能である。電波を用いる場合には、その受信のためのアンテナは、アンテナ29を共用するか、あるいは専用のアンテナを設ける。また電波を用いる場合には、接続中の通信網より撮影の許可／不許可の命令を与えることも可能である。この場合はPHSインタフェース部で分離検出し、その情報により主制御部21にて撮影禁止／許可の切替え指示を行わせる。

【0130】このほか、本発明の要旨を逸脱しない範囲で種々の変形実施が可能である。

#### 【0131】

【発明の効果】本発明は、所定の映像取得動作の禁止または許可を示す禁止信号および許可信号の少なくともいずれか一方を、例えば所定の波長で所定のパターンの光信号（不可視光信号）や所定の波長で所定のパターンの電波信号などにより無線送信する映像取得許可信号送信装置と、前記映像取得動作を行う所定の機器に設けられる映像取得制限装置とから映像取得制限システムを構成し、かつ前記映像取得制限装置には、前記映像取得許可信号送信装置から送信された前記禁止信号および前記許可信号を受信する許可信号受信手段と、前記映像取得許可信号送信装置が前記禁止信号の送信を行う場合には前記許可信号受信手段により前記禁止信号が受信されているときに、また前記映像取得許可信号送信装置が前記許可信号のみの送信を行う場合には前記許可信号受信手段により前記許可信号が受信されていないときに、前記機器が前記映像取得動作を行うことを禁止する映像取得禁止手段とを備えた。

【0132】また本発明は、所定の映像取得動作の禁止を示す禁止信号を、例えば所定の波長で所定のパターンの光信号（不可視光信号）や所定の波長で所定のパターンの電波信号などにより無線送信する映像取得禁止信号送信装置と、前記映像取得動作を行う所定の機器に設けられる映像取得制限装置とから映像取得制限システムを

構成し、かつ前記映像取得制限装置には、前記映像取得禁止信号送信装置から送信された前記禁止信号を受信する禁止信号受信手段と、この禁止信号受信手段により前記禁止信号が受信されているときに、前記機器が前記映像取得動作を行うことを禁止する主制御部などの映像取得禁止手段とを備えた。

【0133】これらにより、映像取得許可信号送信装置あるいは映像取得禁止信号送信装置と映像取得制限装置の許可信号受信手段あるいは禁止信号受信手段とでの信号授受によって映像取得の許可が映像取得制限装置に通知され、映像取得が禁止されている場合には、映像情報の生成・出力動作、送信動作、あるいは蓄積動作といった映像取得動作の実行を禁止することができ、この結果、例えば音声通話などのような映像取得以外の機能を制限することなしに、所定の対象物に関する映像取得を確実に制限できる映像取得制限システムや、この映像取得制限システムを構築するための映像取得許可信号送信装置および映像取得制限装置を提供することができる。

【0134】そしてこれにより、映像撮影機能を持つ機器において、任意の撮影対象物に関する映像の取得や、任意の場所・領域での映像取得を制限することができ、警備の安全や権利上の理由で漏らしたくない映像情報の流出を確実に防止することができる。

【0135】また本発明によれば、前記映像取得禁止手段を、前記禁止信号が前記許可信号受信手段により受信されている状態から受信されない状態に変化した場合には、その後に前記禁止信号が前記許可信号受信手段により受信されない状態が所定時間に渡り継続したことに応じて前記機器が前記映像取得動作を行うことを許可するようにしたので、禁止信号の瞬断では映像取得が許可されたと判定されず、禁止信号が到来しない状態になったことが確実になったのちに映像取得動作を行うことが許可されることになり、映像取得動作の許可の制御をより正確に行うことが可能となる。

【0136】また本発明によれば、前記禁止信号および前記許可信号を所定の波長の光信号とし、かつ前記撮像装置が映像情報を生成するために有する撮像素子を構成する多数の光電素子の一部を前記所定の波長の光信号を受信するために用いるようにしたので、単一の撮像素子により映像情報の生成と、前記禁止信号および前記許可信号の受信とを行うことができ、部品点数の減少、装置の小型化を図り得るとともに、撮影対象物の方角から到来する禁止信号および許可信号を確実に受信することが可能となる。

【0137】また本発明によれば、前記映像取得禁止手段を、所定の制限解除指示がなされたならば、前記許可信号受信手段による前記禁止信号や前記許可信号の受信状況に拘わらずに前記機器が前記映像取得動作を行うことを許可するものとしたので、映像取得動作が禁止されている状況であっても、制限解除指示がなされたならば

映像取得動作を行なうことができ、制限解除指示を行うことができる特定の使用者に対してのみ映像取得を許容することができる。

【図面の簡単な説明】

【図1】本発明の第1実施形態に係る映像取得制限システムの構成を示す図。

【図2】図1中の撮影禁止信号送信装置1の具体的な構成例を示すブロック図。

【図3】図1中の携帯型テレビ電話端末装置2の要部構成を示すブロック図。

【図4】イメージセンサ25aでの撮影領域44および撮影禁止信号受光領域45の配置状況を示す図。

【図5】図4中の波長フィルタ42の光透過特性を示す図。

【図6】図4中の波長フィルタ43の光透過特性を示す図。

【図7】図1中の携帯型テレビ電話端末装置2の外観を示す図。

【図8】図3中の主制御部21による撮影禁止解除処理の際の処理手順を示すフローチャート。

【図9】第2実施形態における携帯型テレビ電話端末装置2の要部構成を示すブロック図。

【図10】図9中の主制御部91によるテレビ電話モード処理の際の処理手順を示すフローチャート。

【図11】図9中の主制御部91による電子カメラモード処理の際の処理手順を示すフローチャート。

【図12】イメージセンサでの撮影領域44および撮影禁止信号受光領域45の配置状況の変形例を示す図。

【図13】イメージセンサでの撮影領域44および撮影禁止信号受光領域45の配置状況の変形例を示す図。

【図14】イメージセンサでの撮影領域44および撮影禁止信号受光領域45の配置状況の変形例を示す図。

【図15】イメージセンサでの撮影領域44および撮影禁止信号受光領域45の配置状況の変形例を示す図。

【図16】カメラ部の変形構成例を示す図。

【符号の説明】

1…撮影禁止信号送信装置

11…パターン生成部

12…LED駆動部

13…LED

2…携帯型テレビ電話端末装置

3…撮影禁止対象物

21…主制御部

22…映像コーデック

23…LCDインタフェース部(LCD I/F部)

25…カメラ部

25a…イメージセンサ

25b…映像データ変換部

25c…制御信号変換部

25d…コマンド指示部

25e…映像データ出力制御部

25f, 25g…イメージセンサ

25h…ハーフミラー

25i, 25j…波長フィルタ

26…カメラインタフェース部(カメラI/F部)

27…多重分離部

28…PHS回線インタフェース部(PHS回線I/F部)

29…アンテナ

30…音声コーデック

31…マイク

32…マイクインタフェース部(マイクI/F部)

33…スピーカインタフェース部(スピーカI/F部)

34…スピーカ

35…操作部

36…操作入力制御回路部

37…主バス

38, 39, 40…同期バス

42, 43…波長フィルタ

44…撮影領域

45…撮影禁止信号受光領域

91…主制御部

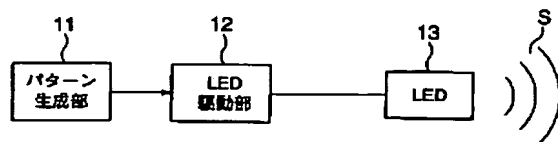
92…カメラ部

93…カメラインタフェース部(カメラI/F部)

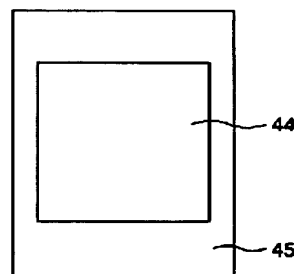
94…映像メモリ

S…撮影禁止信号

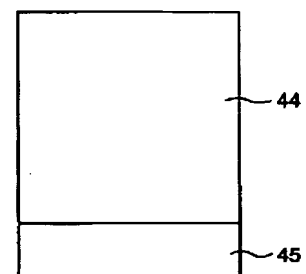
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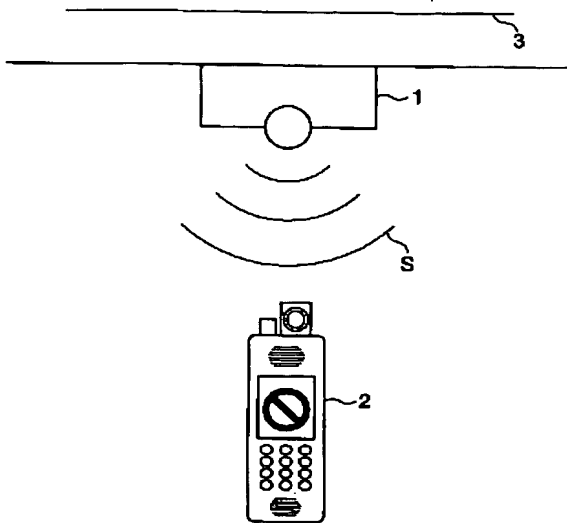
【図12】



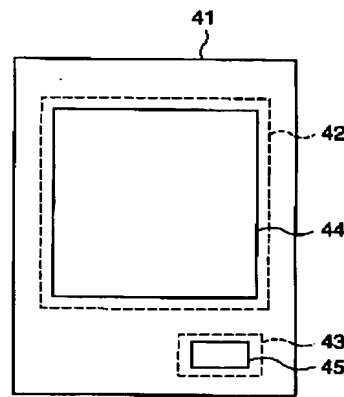
【図13】



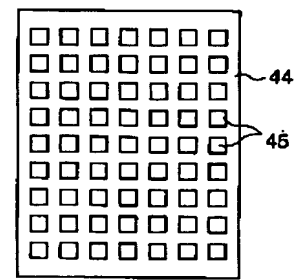
【図1】



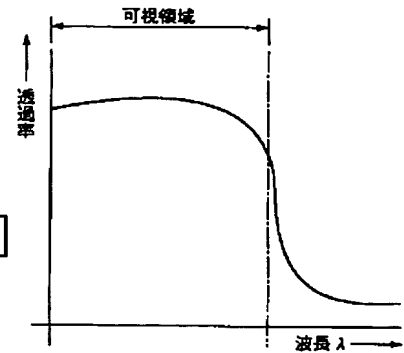
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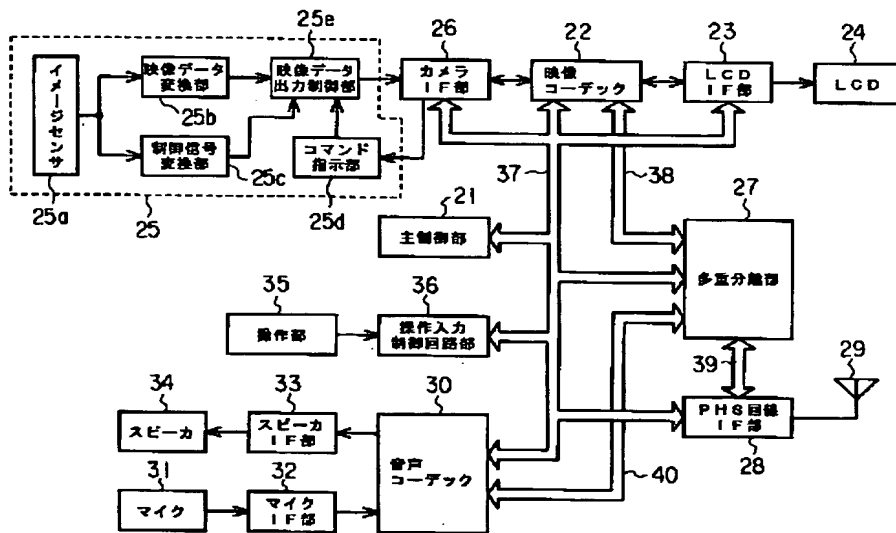
【図14】



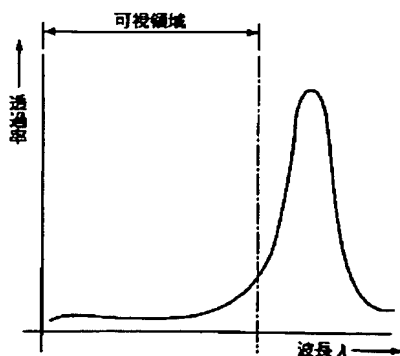
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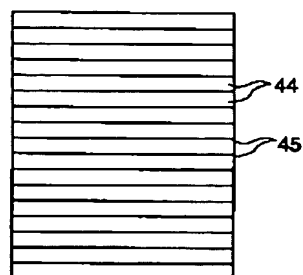
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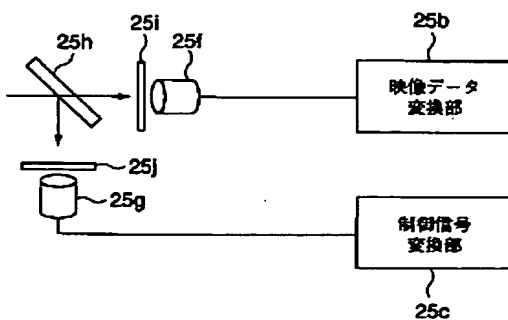
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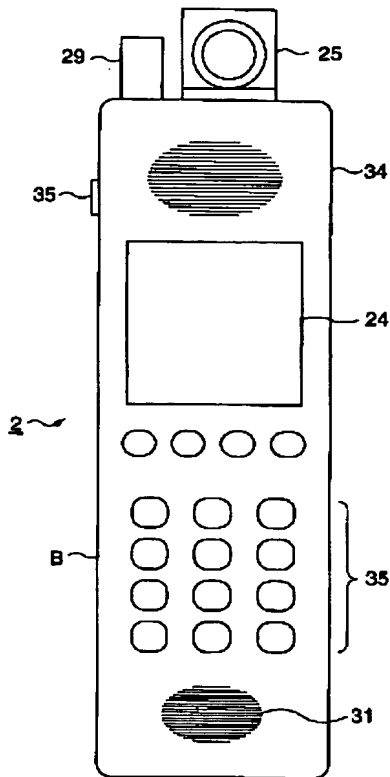
【図15】



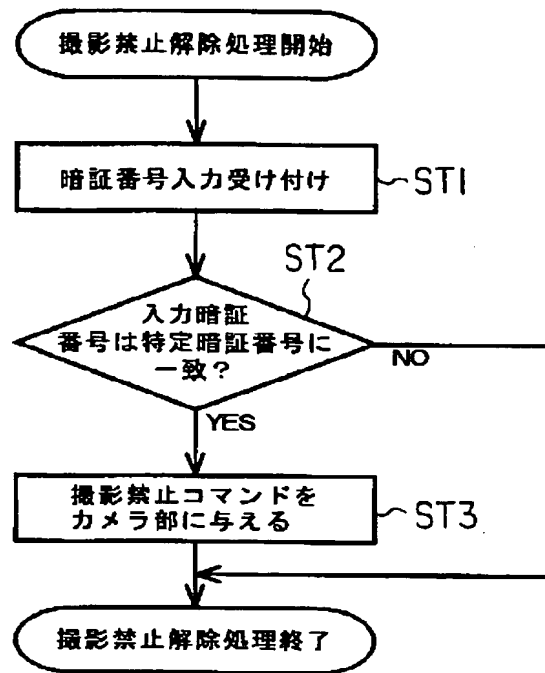
【図16】



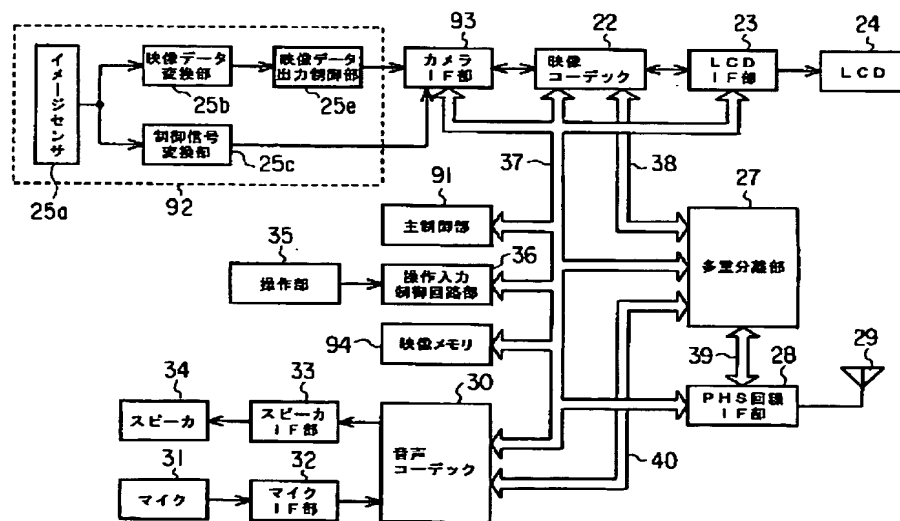
【図7】



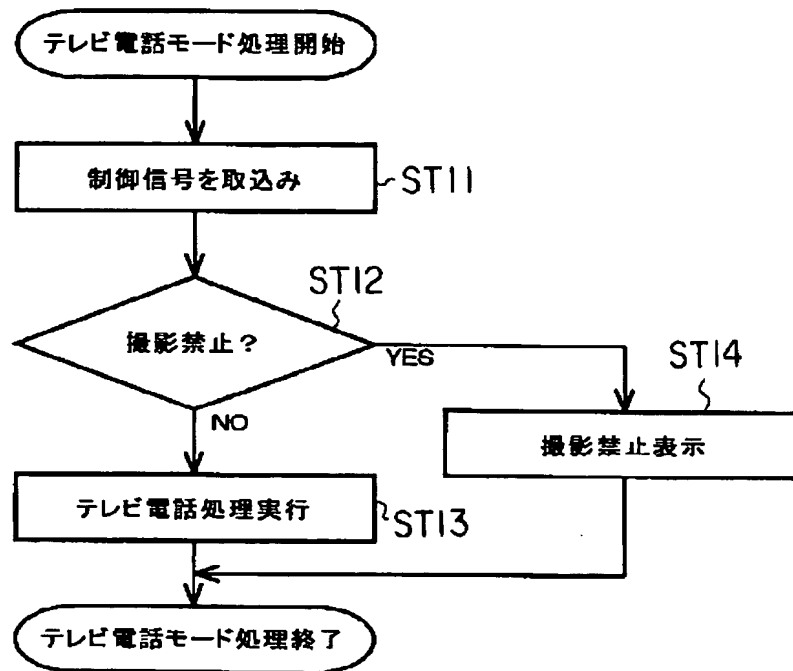
【図8】



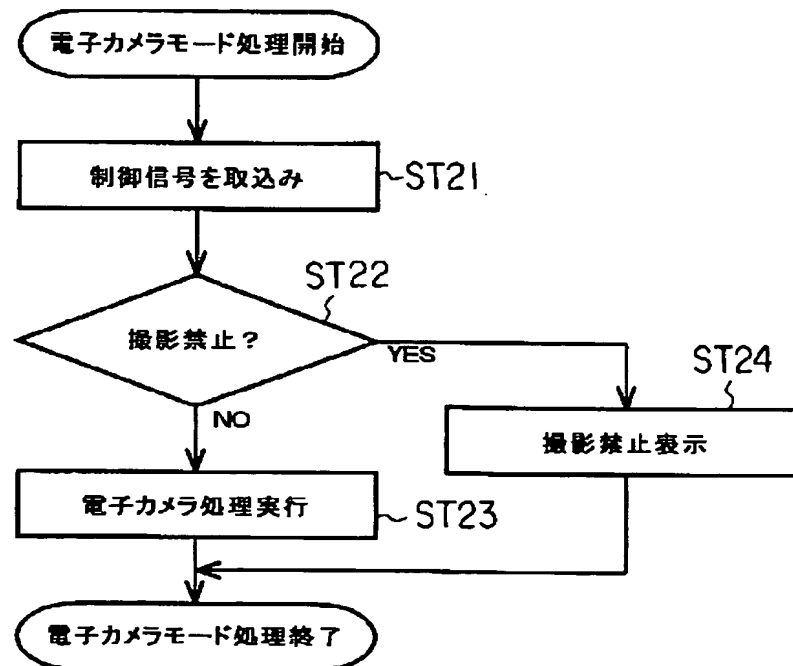
【図9】



【図10】



【図11】



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